ADVERTISER'S COPY

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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

We Live Again!
The Yogi Man
See It and Believe It
Cold Stove League Stuff
How Would You Figure the Odds?
Now Comes Romance
How About This, Khrushchev?
Requiem for a Great Guy
Born Too Late
That's All!

We Live Again!

Without doubt the greatest common interest of most American men (and a surprising number of women) is baseball.

On any level of business activity, conversation about the National Pastime unites buyer and seller, boss and janitor, in strong bonds of fellowship.

Traditionally, when the baseball season opens, "Dope" devotes two or three Kolyums to baseball anecdotes. Herewith the current entries:

The Yogi Man

On his way over to Trenton, N. J., for a banquet Yogi Berra studied an 80-word speech written for him by Publicist Jack Farrell. Over and over again Yogi repeated: "Mr. Toastmaster, ladies, and gentlemen: It is an honor," etc.

Prior to this dinner Farrell discovered that the toastmaster was a priest—so he retrieved Yogi's script and revised:

"Reverend Father, ladies, and gentlemen. . . ."

Yogi restudied it during the soup course. Just when he thought he had it down pat, the Reverend Father whispered an apology into Yogi's ear and departed.

"Farrell," agonized Berra, "the priest had to leave on a sick call. Now I'm so loused up I'll never get started again."

But WE shall. . . .

See It and Believe It

"When I calls 'em OUT," dramatizes Umpire Grieve, "I walks away wid me arms bowlegged."

From Mr. Mack's Athletics rotund Jim Dykes went to the White Sox, where he managed and third-based. First game in which he was matched against his former teammates Dykes thought he detected Connie's scorecard signal for a bunt, and rushed in to field it.

Screaming line drive nearly decapitated Jim. His former boss had changed the signals.

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Westinghouse Push On for Room Units, Other New Products

Dollar Sales Up 21% In '55 NCRSA Members Report

NEW YORK CITY — The Westinghouse appliance division and room air conditioner department are forging ahead with new product and promotion programs, in a speeded-up "post-strike" activity. Here's some of the program announced since the end of the strike:

1. Westinghouse appliance division plants have hired 1,600 additional employes and production of appliances is being stepped up 35% to fill pipelines and meet added demand, says John W. Craig, vice president and general manager of the appliance division. This in spite of the fact that 5,800 employes had returned to work and were

(Concluded on Back Page, Col. 4)

PHILADELPHIA — Total dollar sales rose 20.71% last year over 1954, and dollar net profit before taxes jumped 35.17% in the same period for members of the National Commercial Refrigerator Sales Association.

Members participating in the association's quarterly and annual business conditions survey also reported total dollar sales for the fourth quarter of 1955 were up 42.56% over the same period of 1954.

Inventory was up 6.82% at the end of 1955 compared with Dec. 31, 1954, and accounts re-

(Concluded on Page 37, Col. 4)

Philco Discloses Room Unit Plans

PHILADELPHIA — Some of Philco Corp.'s plans regarding production of air conditioners and home laundry equipment were disclosed at the company's annual meeting held here recently.

James H. Carmine, retiring president, revealed that Philco is now producing 50% of its air conditioners at its plant in Connersville, Ind., and next year will make all of them there.

Carmine said Philco is "meeting rough, tough competition in the air conditioner business." But, he declared, "we have made great gains and expect a larger share of the business this year."

The company has made con-

(Concluded on Page 2, Col. 5)

Gas Turbine Drives New York Compressor

WASHINGTON, D. C. — A powerful new refrigeration compressor, adaptable to an available gas turbine drive, was shown here by York Corp.'s Industrial Div. at the opening of the Gas Turbine Power Conference at the Hotel Statler.

York's "Turbomatic" compressor, in capacities ranging from 115 tons to 350 tons, is particularly suited to gas tur-

(Concluded on Page 37, Col. 5)

Frigidaire Plans 'Room Unit Down' On Home Systems

DETROIT — Frigidaire next month will kick off a residential air conditioning "Trade-'N-Post" sales campaign in which owners of room air conditioners will be urged to trade in their units as part payment for a Frigidaire "full-home" conditioning system.

This was disclosed at the annual dealer meeting held here last week by the Frigidaire Detroit branch. Approximately 185 persons representing 77 commercial and air conditioning

(Concluded on Back Page, Col. 1)

RACCA-Pipe Trades Meet To Plan '56 Operations

WASHINGTON, D. C. — The second meeting within 30 days of the National Joint Program and Training Committee of the Refrigeration and Air Conditioning Contractors Association (RACCA) and the United Association was held here the end of March.

Meeting was held primarily to determine recommendations for the operation of the Joint Committee programs in 1956. It was also reported that the committee is working on a pattern of contractor-union agreements on the local level for small horsepower system installation and service work.

Detroit Refrigeration and Heating Contractors Agree on Need To Relax License Rules

DETROIT — Refrigeration contractors and oil and gas heating contractors in Detroit took the first halting steps toward "learning to live with each other" recently.

At a meeting called by the city's Department of Buildings and Safety Engineering, representatives of both groups agreed that their licensing codes should be changed to permit qualified heating men to install packaged residential air conditioning equipment up to 7½ hp. and qualified refrigeration men to install packaged oil and gas heating equipment up to 300,000 B.t.u. input.

Frank J. Drogosch, chief safety engineer for the city, said

(Concluded on Page 37, Col. 1)

York To Become Borg-Warner Division In Affiliation Plan

No Change In Operations Seen: Other B-W Divs. Are In Air Conditioning

CHICAGO—Under a plan for the affiliation of Borg-Warner Corp. and York Corp., which has been approved by the directors of both companies, York would be operated as a separate division of Borg-Warner.

"We expect to continue the present policies, management, and personnel of York Corp.," said Roy C. Ingersoll, chairman of the board and president of Borg-Warner, who with Stewart E. Lauer, York's president, made the announcement of the plan for the affiliation of the two companies.

Recommendations for the affiliation were submitted to the two boards by Ingersoll and Lauer. Lauer will also recommend that the York shareholders approve the plan at a special meeting to be held in June. The plan also is subject to the approval of the requisite Federal authorities.

The affiliation would be effected under a plan of reorganization whereby Borg-Warner will succeed to all of the assets and assume all of the liabilities of York and each York common shareholder will receive one-half share of Borg-Warner common stock for each one share of York common stock.

In addition, the York common shareholders would receive $2 in cash for each share of York common stock.

"The affiliation with York is a part of Borg-Warner's carefully planned program of diversification," Ingersoll said. "Under this program, we will enter only a few new fields—select major growth industries

(Concluded on Page 4, Col. 1)

'No Likely Connection With Norge', Says Sayre

CHICAGO—The proposed merger of Borg-Warner Corp. and York Corp. will not affect the distributor organizations of either York or the Norge Div. of Borg-Warner, declares Judson S. Sayre, Norge president.

"I have discussed the matter with Roy C. Ingersoll, president of Borg-Warner," Sayre said. "No change in either the Norge or York distribution pattern is contemplated.

"Norge and York each have very fine distributor and dealer organizations for handling the products in their respective fields—Norge as a home appliance manufacturer and York as a producer of air conditioning equipment."

Norge and York will conduct independent manufacturing and marketing operations, it was emphasized.

"This statement does not mean that Norge will never go into the air conditioning field at some time in the future," Sayre added. "At the moment we have no such plans or intentions. But if and when Norge does enter air conditioning, it will be on a basis that will in no way affect York distributors."

ARI Drafts 2 New Rating Standards

WASHINGTON, D. C.—Two new standards on the testing and rating of air conditioning and refrigeration equipment have been drafted and released by the Air-Conditioning & Refrigeration Institute.

The first (ARI Standard 410-56, "Forced Circulation Air-Cooling Coils") specifies minimum requirements for forced-circulation air-cooling coils for application under non-frosting conditions and applies to air-cooling coils using either water or volatile refrigerants.

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WHEN **QUALITY** COUNTS . . .

Count on

READING

Copper Tubing

FOR REFRIGERATION AND AIR CONDITIONING EQUIPMENT...

READING COPPER TUBE

READING TUBE CORPORATION

EMPIRE STATE BUILDING NEW YORK 1, N. Y.

WORKS: READING, PA.

Amana Will Continue Sponsorship Of Phil Silvers Show During Summer

AMANA, Iowa — Television's top-rated comedy program, the five "Emmy"-winning Phil Silvers Show, will continue to be seen during the summer months under the sponsorship of Amana Refrigeration, Inc., it was announced recently by George C. Foerstner, executive vice president of the firm.

Foerstner explained, "Amana is continuing sponsorship of the program during the coming summer months, in order to give our dealers heavy promotional support during June, July, and August. These are the peak selling months for our products — freezers, freezers-plus-refrigerators, and room air conditioners.

"To help dealers tie in with the show, and benefit directly from it, several new promotions to merchandise the show aggressively at the retail level will be announced shortly," he added.

The new promotions will include a heavily advertised traffic-building premium offer, designed to bring prospects into dealer's stores during the peak selling months, plus a new series of ad mats for use by dealers in their local newspapers, linking them to the Silvers Show.

Kelvinator Reports Appliance Sales 13% Above 1955 Period

DETROIT—March household appliance sales by the Kelvinator Div. of American Motors Corp. surpassed comparable 30-day figures for the previous year for the 14th month in a row, to keep totals for the year to date well ahead of 1955, Walter Jeffrey, vice president in charge of sales, announced.

Halfway through the 1956 model year, which began last October, Kelvinator billings to dealers are 13% ahead of the first six months of the 1955 model year, in line with the company's expectation of a 10 to 15% increase in sales this year, he said.

March was 13% above February, indicating substantial retail movement and dealer reorders in preparation for the seasonal surge that already has begun, Jeffrey declared.

Jeffrey said home laundry equipment sparked the continued sales gains, with billings up 35% for the month over March of 1955, up 47% for the March quarter, and up 39% for the year to date, making 1956 by far the strongest year for Kelvinator in the laundry field.

Philco Plans--

(Concluded from Page 1)

siderable progress in the first quarter with respect to air conditioners, he said, adding, "but not in profits."

Carmine also told stockholders that Philco plans to market a complete line of home laundry equipment under its own name.

"We are still using the Dexter brand," he said, "and will market a full line when we are ready under our own name, but not this year."

Reporting that the company has made progress in the appliance field, especially in special custom-built home units, Carmine said refrigerator sales "are way ahead of last year."

During the annual meeting, James M. Skinner, Jr. was elected president by the company's new 13-man board after stockholders approved the management nominees to the board. Earlier, the board had amended the company's by-laws to provide 13 directors instead of 22.

Skinner, son of the late James M. Skinner who headed the company from 1929 to 1939, was formerly a vice president and general manager of Philco's television division.

Carmine earlier had announced that he would retire when his term expired.

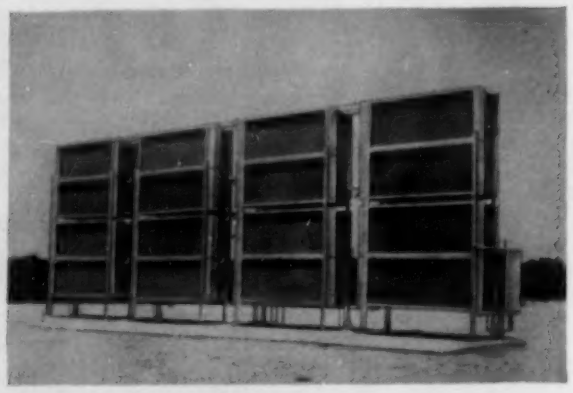
100 TON BARRIER

Crashing the 100 ton barrier

with KRAMER

UNICON

in semi-tropical climate



UNICON SUCCESSFULLY MET THE TEST THROUGH THE SEVERE SUMMER OF 1955

You, too, can crash the big tonnage barriers with UNICON, the industry's finest remote-type air-cooled condenser. Put Kramer's 18 years of "treasured know-how" in the proper use of air as a condenser coolant to work for you.

Photo of Kramer UNICONS mounted on roof of Handy-Andy Supermarket in San Antonio, Texas, used with 100 ton air conditioning system. Supplied through United Supply Co., of San Antonio and installed under the direction of Harold Vogt.

Write for Bulletin U-210-L

KRAMER

KRAMER TRENTON COMPANY
Trenton 5, New Jersey

For more information about products advertised on this page use Information Center, page 26.

Air Conditioning Must Be Installed Properly, Well Maintained To Control Air-Borne Disease In Any Type System

COLUMBIA, Mo.—Air conditioning can play an important role in the control of air-borne disease, but improperly installed and poorly maintained systems can do more harm than good.

That was the essence of the discussion by Dr. Frank B. Engley, Jr., chairman, Department of Microbiology, University of Missouri School of Medicine, before the recent educational conference on air conditioning sponsored by Missouri U.

Most of Dr. Engley's discussion related to applications of air conditioning in hospitals, but most of what he said could apply to any commercial, industrial, or residential application of air conditioning.

Maintenance Contracts Should Include Inspections

Declaring that he would strongly urge service maintenance contracts that would include frequent inspections, for installations in hospitals or in any public place, Dr. Engley said the incorrect installations and poor maintenance often eliminated such benefits as air conditioning might provide in the control of air-borne disease.

Showing pictures of dirt-encrusted air intakes and clogged filters, Dr. Engley said these were the principal kind of maintenance problems which concerned him. He cited a hospital installation in which the intake for the unit serving the surgery was placed directly opposite the air discharge from an infectious disease ward, as the type of improper installation which can cause trouble.

Following are some of the other points made by Dr. Engley on the matter of using air conditioning to help control air-borne disease:

50% Relative Humidity Most Lethal to Air-Borne Bacteria

A 50% relative humidity condition provides the greatest "lethal" (killing) effect on air-borne bacteria. Any relative humidity greater than that loses its "punch" quickly, and lower relative humidities tend to develop "dry dust" particles on which the organisms tend to live longer.

Triethylene glycol and ultra-violet rays have proved to have some effectiveness in combatting air-borne infectiousness, but both present problems of cost, proper operation, and maintenance.

Ultra-violet germ killers work best where the group of people in the conditioned area is primarily "static"—such as nurseries, hospital wards with bedridden patients, orphanages. The ultra-violet is not so effective where people are apt to be quite active.

Where air conditioning helps in combatting air-borne disease in all types of applications, it was pointed out by Dr. Engley, is in keeping the premises clean and dust free. Bacteria are carried on dust particles, and where frequent sweeping, dusting, etc. are necessary, the dust is stirred up and dust-borne germs get into circulation.

The electrostatic precipitator type of air filter and cleaner is effective against air-borne bacteria, since bacteria have a negative electrical charge, and thus are subject to the electrostatic action.

In such hospital areas as those treating burn cases and infectious diseases, and also probably in surgery areas, Dr. Engley believes that designers of systems will be best to play it safe by designing for 100% fresh air, with best possible type of air cleaning, and possibly a germ-killing medium, in the air stream.

14 Papers, 2 Symposiums To Highlight Semi-Annual ASHAE Meeting June 18-20

NEW YORK CITY—The semi-annual meeting of the American Society of Heating & Air Conditioning Engineers will be held June 18-20 in the Shoreham hotel, Washington, D. C.

It will consist of seven sessions beginning on Monday morning and closing Wednesday evening with the semiannual banquet.

The ASHAE Program and Papers Committee, of which Walter A. Grant, Syracuse, N. Y., is chairman, has tentatively selected 14 papers and two symposiums and the Washington, D. C. Committee on Arrangements, (Paul R. Achenbach, general chairman) has completed preliminary plans for various special events.

Some of the technical papers to be presented will represent thinking on such subjects as indirect water heaters, snow melting systems, solar energy, intermittent heating and cooling, and temperature and humidity effects on odor perception.

A symposium on codes and standards will be conducted by Charles H. Pesterfield, professor, Michigan State college. The subject of the other symposium will be residential air conditioning, and this will be conducted by Walter A. Grant, vice president, central engineering staff, Carrier Corp.

The following appointments to Washington, D. C. Committee on Arrangements has been announced by Achenbach:

Vice general chairman, William C. Reamy; Reception Committee, John G. Muirheid; Transportation Committee, S. Rushmore Allen; Entertainment Committee, Joseph H. Broome; Banquet Committee, Fred A. Leser; Ladies' Committee, Mrs. Joseph H. Broome; Publicity Committee, Beverly P. Evans; Finance Committee, Albert S. Gates, Jr.; Sports Committee, Francis E. McArdle; Sessions Committee, Gunnar C. F. Asker.

Louisiana To Condition Capitol Bldg. Basement

BATON ROUGE, La.—The state has advertised for bids to air condition the basement of the state capitol building here and the low bidder was Standard, Inc., of Baton Rouge, with a bid of $45,689.

One other bid was higher and bids have been taken under advisement, the report pointed out.

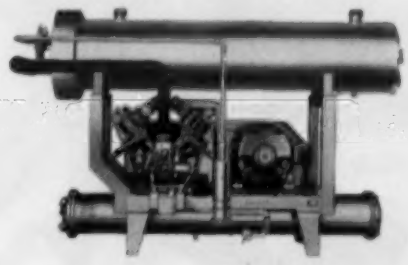
3 FACTUAL reasons why Curtis dealers can make more money—CONSISTENTLY:

1 CURTIS has 102 years of experience in manufacturing precision made equipment. One of the first manufacturers of packaged air conditioning units—since 1936.

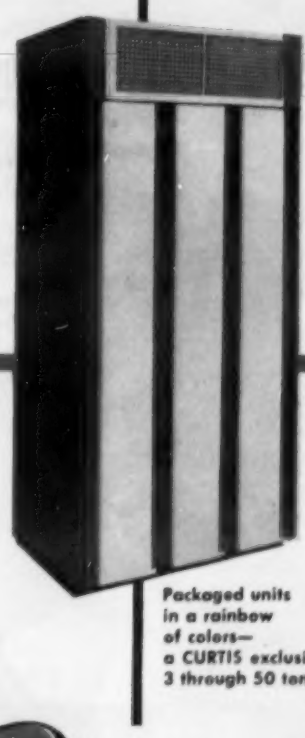
2 Unsurpassed know-how for building air conditioning units that operate longer with less maintenance and service—YET ARE COMPETITIVELY PRICED with generous profit margin for you.

3 CURTIS provides sales and promotional aids—a complete financing plan—and a national advertising campaign to make your selling easier.

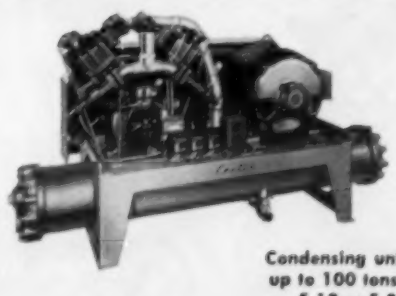
Evaporative Condensers and Cooling Towers up to 100 tons. Air handling units to match.



Packaged Liquid Chillers—7½ to 100 tons—F-12 or F-22. With room console units to provide controlled cooling and heating without duct work.



Packaged units in a rainbow of colors—a CURTIS exclusive. 3 through 50 tons.



Condensing units up to 100 tons—F-12 or F-22.

Packaged Air Cooled Air Conditioning Units—2 through 7½ tons. Residential and Commercial applications.

Remember YOU CAN COUNT ON Curtis MANUFACTURING COMPANY

REFRIGERATION DIVISION • 1912 Kienlen Ave., St. Louis 20, Mo.

CM-11

For more information about products advertised on this page use Information Center, page 26.

York, Borg-Warner Plan--

(Concluded from Page 1, Col. 5)

to which we believe Borg-Warner can make a real contribution because of its particular engineering, manufacturing, and sales knowledge and experience.

"We recognize that York Corp., through its preeminence in engineering, production, and distribution has established itself over the years as a leader in the entire air conditioning field.

"When the plan becomes effective, York will be operated as a separate division of Borg-Warner and we expect to continue the present policies, management, and personnel of York. We believe we can achieve tremendous growth potential through the combined resources of our two organizations."

Lauer pointed out: "York Corp. has a major position in air conditioning for industry, institutions, and office buildings from the smallest establishment to the largest skyscraper and in refrigeration principally for food processing and chemical industries.

MUCH YORK BUSINESS RELATES TO HOME AIR CONDITIONING

"A considerable part of York's business relates to home air conditioning. Borg-Warner also has several divisions supplying other products for the home, including Norge's full line of household appliances, and Borg-Warner's 'Airline' heating equipment, and these will complement York's home-cooling systems."

Lauer and Ingersoll agreed that distribution and expansion of product lines would be greatly enhanced by the affiliation of the two companies.

Borg-Warner has 37 operating divisions and subsidiaries, of which four have a fairly direct connection with the refrigeration and air conditioning industry.

Norge Div., with headquarters in Chicago, produces household refrigerators and food freezers, but it has produced or marketed room air conditioners.

Ingersoll Conditioned Air Div. at Kalamazoo, Mich., produces air cooled and water-cooled summer air conditioning units, and gas, oil, and coal-fired warm air heating systems. Some time back the Ingersoll Conditioned Air Div. absorbed the "Norge Heat" operation, and just recently acquired Primor Products of Adrian, Mich., which produces chassis for residential comfort cooling systems.

Hydraline Products Div. in Detroit produces, in the company's own definition "forced-water air conditioning systems, recessed room heating, cooling, and air filtering units for all structures"—in other words, "wet" type air conditioning systems, and air handling units.

Long Mfg. Div. in Detroit produces heat exchanger products, such as cooling and heating coils, and condensers.

YORK'S RELATIONSHIP TO DIVS. REMAINS TO BE SEEN

How the products and merchandising programs of these divisions will mesh with those of York remains to be seen. York has reportedly been seeking a tie-up with a manufacturer of heating equipment.

Borg-Warner's 1955 sales in diversified fields, including home appliances, automotive components, farm equipment, aircraft parts, oil field equipment, steel, and plastics, totaled $552,192,430 with net earnings of $41,075,784.

York's 1955 sales, including commercial and domestic air conditioning, commercial refrigeration systems, and allied lines, were $82,713,623 and net earnings amounted to $2,426,236.

York Corp. is one of the oldest manufacturing firms in the refrigeration and air conditioning field, having been formed in 1874. It is generally conceded to be the second largest producer of such equipment in the world, and employs more than 4,000 people in two plants and its head offices in York, Pa.

York To Hold Service Meetings In 4 Cities

CHICAGO—A series of service meetings to educate distributors, dealers, and in dependent servicemen on installation, maintenance, and replacement of York Corp. products will be held this month in Chicago, Milwaukee, Indianapolis, and Detroit.

According to John L. Roth, York's central district manager for the commercial division, each product line story will be told on slides, colored movies, and tape recorders. The meetings will be attended by York factory representatives and central district service supervisors.

In Chicago, Remco, Inc. will be host distributor for a room cooler meeting on Tuesday, April 17. Murphy & Miller will sponsor a meeting on the commercial line on Thursday evening and on the residential line at noon on Saturday, April 21.

In Indianapolis, Sanborn Electric Co. will host a meeting on the complete line starting at 3 p.m., Wednesday, April 18.

In Milwaukee, York-Wagner Distributors will sponsor a complete line meeting Friday evening at 7 p.m.

In Detroit, York-Detroit Corp. will sponsor a presentation on the commercial line at 3 p.m., Tuesday, April 24 and Appliance Wholesalers will cover room coolers at 7 p.m., Wednesday, April 25.

ARI Standards--

(Concluded from Page 1, Col. 5)

This standard includes minimum equipment, methods of rating and testing, design, construction, and safety provisions.

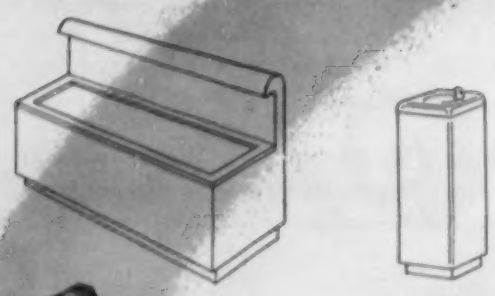
The other (ARI Standard 411, "Standard for Methods of Testing and Rating Forced-Circulation Air-Cooling and Air-Heating Coils") prescribes methods of testing and rating both air-cooling and air-heating coils to assure uniform capacity information on the coils.

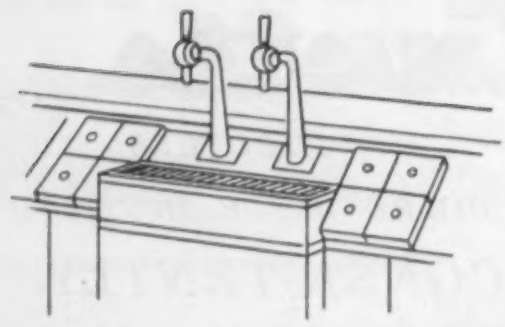
ARI Standard 411 also describes and specifies the basis of rating, test equipment and apparatus, test methods and procedures, test data, calculations to be made from test data, and a definition of terms to be used in testing and rating of equipment.

Copies of the standards may be obtained from ARI headquarters, 1346 Connecticut Ave., N.W., Washington 6, D. C., Standard 410-56 at 25 cents and 411 at $1 a copy.

REFRIGERATION PRESSURE REGULATORS that . . .

Prevent Cooler Freeze-Ups
Prevent Motor Overload

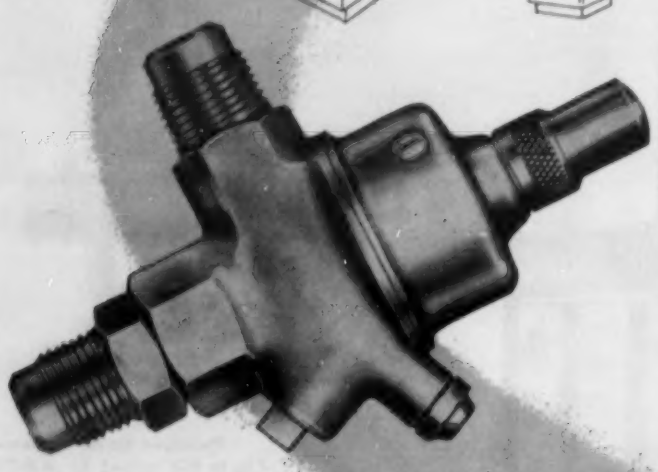




Here's the solution to costly freeze-ups of water cooling equipment: the Detroit 668 Evaporator Pressure Regulating Valve.

The 668 prohibits freeze-up of water coolers, beverage coolers, and other water cooling equipment by preventing the suction pressure from going below the freezing point.

The 668 will accurately maintain evaporator pressure in accordance with its setting, and thereby accomplish individual evaporator control in single or multiple systems.



668 Evaporator Pressure Regulating Valve

667 Crankcase Pressure Regulating Valve.

The Detroit 667 Crankcase Pressure Regulating Valve adds to the life of compressor motors by preventing overload. The 667 valve does this by holding back the pressure from the crankcase, regardless of the pressure in the evaporator. There is no overloading because the pressure cannot exceed the point at which motor overloading occurs, when the 667 is set to maintain the proper crankcase pressure. This valve is also ideal for use as the re-expansion device in hot gas defrost systems.

Cooling units equipped with Detroit 668 and 667 valves operate smoother, longer, and more efficiently.

For full information contact your Detroit Controls Wholesaler, or write for Bulletin 260-A.

DETROIT CONTROLS CORPORATION
6900 TRUMBULL AVE. • DETROIT 8, MICHIGAN
Division of AMERICAN-Standard

Representatives in Principal Cities • Canadian Representatives: RAILWAY AND ENGINEERING SPECIALTIES, LTD., Montreal, Toronto, Winnipeg.

AUTOMATIC CONTROLS for REFRIGERATION
AIR CONDITIONING • DOMESTIC HEATING • AVIATION • TRANSPORTATION • HOME APPLIANCES • INDUSTRIAL USES

For more information about products advertised on this page use Information Center, page 26.

Heating, Air Conditioning Dealers Go to School

Experts Show How To Finance, Operate Business Profitably; Explain Insurance, FHA Loans, Human Relations, Opportunities

By John O. Sweet

CHICAGO — Thirty-nine midwestern heating and air conditioning dealers got an intensive schooling in management techniques during a two-day course conducted recently on the Northwestern university Chicago campus.

They heard faculty members, government officials, and business executives discuss such subjects as financing a business, operating a business more profitably, insurance, FHA Title I loans, human relations, and opportunities for success. And they took an active part in the school by asking many questions and offering comments.

Twenty-seven of the 39 dealers operate firms in Illinois. Of the remainder, five were from Iowa, four from Indiana, two from Wisconsin, and one from Missouri.

The school was sponsored by 15 members of the National Heating & Airconditioning Wholesalers, Inc., and the Small Business Administration in cooperation with the Northwestern university school of commerce. Fee for the dealers was $35.

(Some of the material presented at the management technique school will be published in greater detail in future issues of the NEWS.)

Arrangements for the course were made by Charles R. Bennett, NHAW trustee for the Chicago trading area and general manager of Armstrong Heating Supply Co., Chicago; Henry E. Theobald, assistant dean of the university's school of commerce; and Joseph J. Zbornik, supervisor of business education, Chicago Board of Education.

During a dinner session, at which the dealers were guests of the sponsoring wholesalers, Edward Mott, Mott Bros. Co., Rockford, Ill., and NHAW regional trustee, pointed out that the school was patterned after a pioneer school held at Ohio State university under sponsorship of Columbus area NHAW members.

Future Schools Planned

Since then, similar schools have been held in other areas. Mott said future schools are planned for Michigan, Wisconsin, Indiana, and Illinois.

The NHAW hopes that eventually, management schools for dealers will be offered in all parts of the country, according to Bennett.

The school here opened with a "get-acquainted" session, after which the dealers heard lectures on "Legal Organization of Your Business" and "Financing Your Business." Lecturers were Edward W. Barrett and Bion B. Howard, of Northwestern's faculty.

Following a luncheon, Joseph Zbornik of the Chicago Board of Education discussed "Operating Your Business More Profitably." He covered construction and use of financial statements, classification of accounts, journals and ledgers, computation of cost of sales, and job cost estimating.

Explore Federal Income Taxes

George C. Brook, director of research and statistics of the Chicago Board of Education, then talked on Federal income taxes. Last speaker on the afternoon program was John E. W. Timm of the Illinois Dept. of Revenue, who gave details on the state and municipal retailers' occupation tax acts and the state use tax act.

The next morning, the dealers were given information on liability, workmen's compensation, and physical damage and business interruption insurance. Speakers were Dean Theobald; Howard J. Benson, manager, Liability & Compensation Dept., W. A. Alexander & Co., Chicago; and John T. Even, executive assistant of the same concern.

In the afternoon, Charles J. West of W. A. Alexander's Bond Dept., covered fidelity and surety bonds, and Fred Heitmann, Jr., vice president and director, Northwest National Bank of Chicago, discussed FHA Title I Loans and showed a film on "Operation Home Improvement."

Another speaker was Darrel S. Caris, instructor in salesmanship at Northwestern, who talked on "Human Relations With Customers and Employes." The dealers also heard a talk by C. W. "Bill" Nessell, director of field research, National Warm Air Heating & Air Conditioning Association.

Good Merchandising Means Success

Nessell told the dealers that "the difference between success or failure in our business is the way we merchandise our product." He said "we've got to quit selling equipment, gimmicks, and gadgets." Otherwise, he indicated, the reputable dealer is "up against a price situation."

Citing examples of inferior heating installations he has checked in homes, Nessell said the industry has failed to impress upon the public the importance of a proper heating system in terms it can understand—health and comfort.

He indicated that many women know—as a result of appliance industry "educational" activities—what features they want in a refrigerator, for example.

But, he stressed, they know nothing about the requirements of a good heating system. He said the industry must tell this story — in terms that mean something to people—through such means as talks to community organizations and information for use in schools.

Nessell said he hopes to see the day when the housewife will ask the dealer what he guarantees—not says—as to heating system performance. Then, Nessell asserted, "the chiselers will have to put in as good equipment as you do" and they won't be able to cut the price.

In another talk, William H. Kelley, Chicago regional director of the Small Business Administration, discussed the future of small business, and the services made available to small firms through the SBA.

PINPOINT COMPRESSOR PERFORMANCE TO YOUR APPLICATION WITH Tecumseh

THE ONLY COMPLETE LINE OF HERMETIC AIR CONDITIONING COMPRESSORS

MODEL JA150 1½ H.P.
THE WORLD'S LARGEST PRODUCER OF COMPRESSORS FOR THE REFRIGERATION INDUSTRY
THREE PHASE
MODEL FB500 5 H.P.
SINGLE PHASE
MODELS JB200 2 H.P. JE300 3 H.P.
THREE PHASE
MODELS JB200 2 H.P. JE300 3 H.P.

OVER 21,000,000 COMPRESSORS IN USE TODAY

15 compressor models ⅓ thru 5 h.p.

AIR OR WATER COOLED APPLICATIONS

FURNACE UNITS · WINDOW COOLERS · STORE COOLERS · WATER CHILLERS

Tecumseh's complete line of hermetic air conditioning compressors lets you pinpoint the compressor that is "performance matched" to your particular requirements. Engineered and tested to meet the increasing demand for air conditioning, Tecumseh's new line with 15 compressor models offers you flexibility of design, plus quietness and efficiency under the toughest possible conditions. All models deliver full tonnage within the horsepower range and are designed to meet new code restrictions covering power factor and current limitations. The larger sizes are available for single or three phase and by changing only the electrical components the basic compressor can be used for water or air cooled applications. Add these features to compact size, light weight and low cost, and you'll agree it pays to have a choice when your choice is Tecumseh. Write today for Bulletin #100 containing detailed information and specifications concerning Tecumseh's new line of Hermetic Air Conditioning Compressors.

TECUMSEH PRODUCTS CO. *Tecumseh, Michigan*

EXPORT DEPT.— P.O. Box 2280, 24530 Michigan Ave., W. Dearborn, Michigan

For more information about products advertised on this page use Information Center, page 26.

NARDA Room Conditioner Trade-In Guide Ready

MADISON, Wis. — The National Appliance Trade-In Guide Co. announces a new publication for air conditioning retailers.

This Blue Book of Air Conditioners, which was due April 15, will carry specifications, list prices, and trade-in values on over 1,000 room air conditioners, the company said. It will feature pictures of over 100 representative models from 1947 through 1956. Over 40 brands will be represented.

"Special features include articles on why people buy air conditioning, how to sell air conditioners, how to 'size' an air conditioner, how to measure cooling capacity, and a complete discussion of the six functions of room air conditioners," it was noted. "Reverse cycle and electric heating are also covered in a way that even the consumer can understand.

"ARI Standard 110-55, for measuring cooling capacity, is reproduced in full as is the ARI 16-Point Standard for Advertising.

Also included is a handy chart for figuring cooling capacity requirements."

List price of the book is $5 per copy. Introductory copies may be purchased for $3.50 each. Quantity prices can be arranged through the National Appliance Trade-In Guide Co., 2132 Fordem Ave., Madison 1, Wis.

CBS Columbia Outlet To Handle Room Units

CHICAGO — Appointment of the factory branch distributor for CBS Columbia of western New York as distributor of Mitchell room air conditioners for the Buffalo trading area has been announced by The Mitchell Mfg. Co.

CBS Columbia replaces Bison Electric as the Mitchell representative.

Florida Hotel Orders 103 Through-the-Wall Units

MIAMI BEACH, Fla.—Tropicaire Engineering Co. of Florida, distributor of Lewyt "through-the-wall" air conditioners, has recently received a contract to install 103 units in the Lido Biltmore hotel, at Lido Beach, Sarasota, Fla.

Tropicaire has also installed 235 Lewyt flush units at the Parkleigh House in Miami.

Vornado Room Unit Sales Up over 1955

WICHITA, Kan.—Given normal weather, the present year looks very favorable, O. A. Sutton, president and chairman of the board of the O. A. Sutton Corp., Inc. told stockholders.

"The sales of 'Vornado' room air conditioners this year are significantly higher than in 1955, due in some degree to the newly engineered models which were introduced this season," he declared.

"Private brand business also has materially increased compared with the preceding year, partly through the efforts of the newly established sales department for private brand business.

"The development of the Vornado central system sales ultimately may reach a point where the unit volume will exceed that of the room air conditioner business."

Whirlpool-Seeger Names George Stevens To Head Merchandise Developing

ST. JOSEPH, Mich. — Appointment of George T. Stevens as director of merchandise development for Whirlpool-Seeger Corp. was announced recently by John A. Hurley, vice president of the company.

G. T. Stevens

Since 1948 Stevens has headed his own firm, George T. Stevens & Associates, Chicago, national distributor of built-in ovens and ranges and national sales representative for vacuum cleaners.

He has been associated with the appliance industry in executive capacities for the past 25 years.

From 1940 to 1948, he held executive posts with Eureka Williams Corp., Bloomington, Ill., formerly Eureka Vacuum Cleaner Co. He joined the latter company as vice president in charge of sales and as a director. After the formation of Eureka Williams Corp., he was elected executive vice president of the company and manager of the Eureka Div.

Previously, he had been manager of the refrigeration division of Crosley Corp. and a merchandiser for Allied Stores Corp., New York. Starting his appliance career in the retail field, he had been associated with Montgomery Ward & Co. from 1929 to 1935, rising to the position of eastern region merchandising manager in charge of all hard lines and major appliances.

How G-E motors help

FOR DIRECT-DRIVE ROOM UNITS, (A) permanent - split - capacitor, 35 mhp thru 1/6 hp; FOR DIRECT-DRIVE CENTRAL UNITS, (B,C) perm.-split-cap. thru 1/2 hp; FOR BELT-DRIVE CENTRAL UNITS, (D) cap.-start thru 3/4 hp at 1725 rpm, thru 1 hp at 3450 rpm, and (E) split-phase thru 1/2 hp.

For more information about products advertised on this page use Information Center, page 26.

Broaden, Make Permanent FHA Home Improvement Program, Congress Asked

WASHINGTON, D. C.—Place FHA Title-I home improvement loan program on a permanent basis and broaden its present limitations, it was requested recently of the Senate Banking and Currency Committee studying bill S.3302 to amend the National Housing Act.

James S. Binder made this statement to the group. He is president of the Council of Mechanical Specialty Contracting Industries which represents 90,000 small business firms responsible for installing heating, air conditioning, ventilating, plumbing, electrical, and protective devices in homes and buildings.

Pointing out that 1956 is Home Improvement Year, Binder said it has been our experience that home improvement on any considerable scale requires "ready financing such as that made possible through FHA Title-I." He then listed five changes SMSCI recommends in amendments to the National Housing Act.

1. Eliminate the requirements that a residence must be occupied for at least six months before it qualifies for a Title-I loan.

2. Increase the limit on loans for improving muitiple family residences from $10,000 to $15,000 and raise the maximum term for these loans from seven to 10 years.

3. Increase the maximum home improvement loan for a single family dwelling from $2,500 to $5,000.

4. Place Title-I on a permanent basis by eliminating an expiration date.

5. Extend the maximum term of such loans from 36 months to 60 months.

Worthington's Cooling, Refrigeration Bookings Up 30% In '55 over '54

HARRISON, N. J. — Worthington Corp. finished 1955 with a 30% increase over 1954 in air conditioning and refrigeration bookings, Hobart C. Ramsey, chairman of the board, told stockholders at their recent annual meeting.

"We anticipate a further substantial increase in 1956," he added.

"Our network of distributors and dealers has been expanded to the point where the number of retail outlets for Worthington's commercial and residential air conditioning units is one-third greater than it was in 1954."

MUELLER MERGER RESULTS EXCEED EXPECTATIONS

Commenting on the first full year of operation of Mueller Climatrol as a division of Worthington, Ramsey stated, "The performance of Mueller Climatrol, with its full line of home heating and cooling equipment, exceeds our expectations both in volume of business and in earnings.

"The merger has more than paid its way. In addition, Mueller products complement very effectively the products of our Air Conditioning & Refrigeration Div."

Ramsey reported that modern machines and equipment are being moved into the newly acquired plant in the Ampere section of East Orange, N. J.

The Ampere plant will be headquarters for the Air Conditioning & Refrigeration Div., as well as for the Standard Pump Div.

"Production will begin there during the second quarter," Ramsey declared. "Important economies in production costs as well as greater production capacity will result."

FURTHER INCREASE IN EARNINGS EXPECTED

Commenting on Worthington's over-all operations, Ramsey said the corporation expects a further improvement in earnings in 1956 above the record total of 1955, based on an expected increase of at least 15% in total sales.

Ramsey stated that first quarter earnings will approximate the average of earnings in 1955, despite the adverse effect of expenses incurred in getting the Ampere plant into production and the fact that the first quarter is always the off-season for Mueller Climatrol.

Unfilled orders at the end of the first quarter will be approximately $67 million as compared with $50 million at the same date last year, he pointed out.

Ramsey revealed that the Mason-Neilan Regulator Co., which is soon to be acquired by Worthington under an agreement signed in March, has a sales volume of between $7 and $8 million "and considerable potentialities beyond that."

He pointed out that Mason-Neilan control valves and regulators are used in automatically controlled production systems, in conjunction with Worthington pumps, compressors, and turbines.

simplify your design problems

G-E motors tailored to your air conditioner and produced on schedule help you develop and market new products faster!

General Electric "Form G" fractional horsepower motors can help you improve the design of your new air conditioning units and get them into production faster because:

1. THE RIGHT MOTOR is available from General Electric *now!* The motors at left are typical of the complete line of General Electric motors designed specifically for the high power factor and efficiency you want. If you require modifications to solve a specific design problem . . .

2. GENERAL ELECTRIC APPLICATION ENGINEERS are ready to help you get the best motor for your product, commensurate with performance and cost requirements. And . . .

3. ON-SCHEDULE DELIVERY of General Electric motors helps get your new product into production without delay. As for quality . . .

4. "YEARS-AHEAD" G-E DESIGN has been proved by the outstanding record of over 5,000,000 motors put in use since G-E pioneered in the design of smaller, lighter motors four years ago. You get more dependable motor service and greater customer satisfaction from such G-E features as: a bearing system that needs no re-oiling for summer cooling use; an insulation system of Formex* wire, Glyptal* alkyd-resin, and Mylar† polyester film that is virtually unaffected by moisture and humidity.

You can simplify assembly, too, with such features as the "quick-connect" terminal board and "clip-on" terminals which speed hookup.

These are only a few of the many G-E motor benefits that will help keep your new design program on schedule, and improve your product as well. If you'd like to get help on a specific problem, contact your nearby G-E Apparatus Sales Office. For more information on "years-ahead" G-E motors, write for Bulletin GEA-5567. General Electric Co., Sect. 702-31, Schenectady, N. Y.

*Reg. trade-mark, General Electric Company.

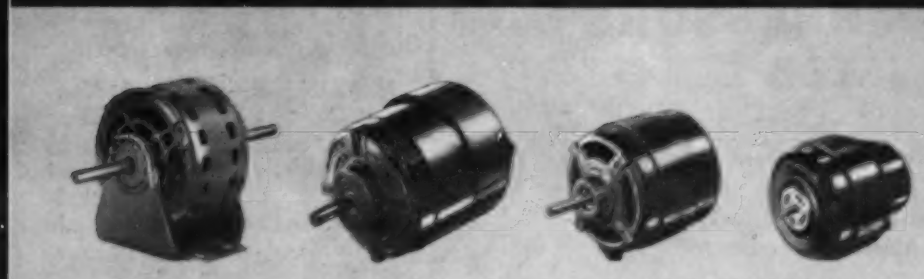
†Reg. trade-mark, DuPont Company.

APPLICATION HELP from G-E engineers familiar with your problems assures you of the best motor to meet your requirements.

ON-SCHEDULE DELIVERY of the motors you need is the result of General Electric's flexible, multi-plant facilities.

GENERAL ELECTRIC

G.E. ALSO OFFERS A COMPLETE LINE OF SHADED-POLE MOTORS



1/12 TO 1/4 HP, 4- and 6-pole
25 MHP TO 1/12 HP, open and enclosed
15 TO 35 MHP, 2- and 4-pole
1.5 TO 16 WATTS, 4- and 6-pole

For more information about products advertised on this page use Information Center, page 26.

LIQUID EYE® POSITIVE SEALING **INDICATORS**

FROM THE SMALLEST TO THE BIGGEST

MIDGET SIZES 1/4" or 3/8" Line

GIANT SIZES thru 1-5/8" Line

There is no job too large or too small for LIQUID EYE. There is a unit available for the smallest air conditioner or refrigerator to the largest size Commercial Installation in operation today.

Here's why almost 1,000,000 Liquid Eye Indicators have been sold to date.
Spring loaded gaskets for positive sealing • unrestricted full-line flow • pyrex glass, double sealed at sides and ends, provides instant check of refrigerant condition • guaranteed to 500 psi. • precision made.

Sold by leading wholesalers everywhere.
Send today for Catalog D-55 containing the complete Liquid Eye line.

Allin MANUFACTURING COMPANY 5153 West Grand Ave. Chicago 22, Illinois.

Almost 1,000,000 Liquid Eyes Sold to Date!

Virginia RSES, Region III ARW Hold Conventions at Same Time and Place

VIRGINIA BEACH, Va.— Ninth annual convention of the Virginia State RSES association and the spring meeting of Region III of Air-Conditioning and Refrigeration Wholesalers Association were held at the Cavalier hotel here March 23 to 25.

Activities of the ARW group included a closed business meeting and an open session for wholesalers and manufacturers personnel.

Featured in the open meeting were talks by Jos. Hoopes of du Pont and E. L. Tramposh, national president of ARW.

An innovation for the RSES meeting was the soldering contest sponsored by Mueller Brass Co. in which servicemen, working against time, were required to solder 11 joints to form an upright square of tubing. Penalties were incurred for leaks, unsightly joints, etc.

Winner and state champion was Ken Payne of Charlottesville, Va.; John Kirby of Danville, Va. was second; Aaron T. Cook, CPO at the Norfolk Navy base, third.

Three talks were given at RSES educational sessions. Ralph B. Dyer of Colonial Stores discussed salesmanship; Carlton D. Davis of Minneapolis-Honeywell, "Zone Control for Air Conditioning"; and Ted Silary, Sporlan Valve Co., "Moisture, Inc." Chairman of the sessions was George Brown, retiring president.

New officers of the state association inducted at this convention are headed by Edward L. Booth, president; E. W. Gallop is first vice president; E. C. Earley, second vice president; O. M. Duggins, secretary and treasurer; George Nash, educational director; K. U. Higgie, sergeant-at-arms; R. B. Mayes, will serve as convention chairman.

As a special entertainment feature of the get-together party first evening of the convention Virginia Smelting Co. staged an "All-Virginia" buffet complete with Virginia ham, peanuts, and beverages, it was noted.

Blitz Will Direct Introduction of New Refrigerant Line

PHILADELPHIA — Pennsylvania Salt Mfg. Co. has announced the appointment of Arnold E. Blitz to its technical sales staff to direct the introduction of the company's new line of refrigerants.

A. E. Blitz

Known as "Isotrons," these products will be produced in a new plant at Calvert City, Ky., scheduled for completion late this year. This project is part of Pennsalt's recently announced $55 million expansion program.

Blitz joined Pennsalt in 1951 and served successively as sales manager and sales supervisor in the Metal Processing Chemicals Dept. Earlier, while serving as sales manager for the Marietta Metal Products Corp., he gained broad experience in the air conditioning and refrigeration fields.

Roche & Hull, Inc. Adds to Quarters

BALTIMORE—Addition of a 45 by 105-ft. second story over the one-story section of its present building has been scheduled for construction by Roche & Hull, Inc., veteran parts wholesaler here, according to George J. Roche, president of the firm.

The addition will be employed for warehousing, Roche said, adding that the firm hopes to have it ready for occupancy by July of this year.

"We were unable to find the additional needed space in the central Baltimore area where we're located now, and we didn't want to move to the outskirts," Roche explains the building addition.

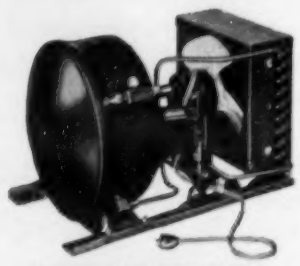
Firm To Air Condition Old Bldg., Add New One

MACON, Ga.—The J. J. Newberry Co. has announced plans for remodeling and additions to its establishment at Cherry and Third Sts. The project, including installation of a new air conditioning and heating system, will cost over $200,000.

Manager L. E. Edmondson said two buildings purchased last spring by Newberry's, located at the rear of the present store, will be demolished. A new 4½-story building will go up in their place.

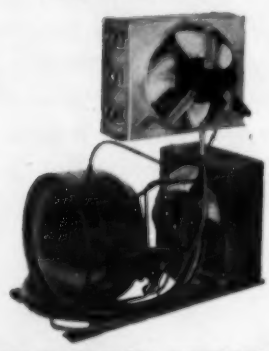
DEPENDABILITY

That's Why Every Day More and More and More Products are Being Equipped with



CONDENSING UNITS

COMPRESSORS



REFRIGERATION SYSTEMS

AMERICAN MOTORS

HERMETIC CONDENSING UNITS, COMPRESSORS AND REFRIGERATION SYSTEMS

Millions of installations have proved the dependability of American Motors equipment. If you have an old or a new application problem, the vast facilities and resources of American Motors are at your service. It may well be that one of the totally new and different units soon to be available, after long and successful field testing, is the solution to your problem. Call or write American Motors today.

American Motors Corp.
Detroit 32, Michigan

CONTRACT DEPT.
KELVINATOR
DIVISION

SPECIALISTS IN REFRIGERATION SINCE 1914

For more information about products advertised on this page use Information Center, page 26.

Ill. Pipe Trades Chief Named to State Commission To Study Possible Law on Plumbing Regulations

CHICAGO—A special commission was recently appointed here to study possible legislation on plumbing regulations, it was reported.

Harry R. Shaw of Rockford, Ill., president of Illinois Pipe Trades Association, was one of those named to the group. He is vice president of the United Association of Plumbers and Pipe Fitters, it was added in the announcement.

Others appointed are Theron W. Merryman, Chicago plumbing and heating contractor, and Leslie H. Paul, a Carbondale, Ill. contractor. Six state legislators are also members of the body.

Scotsman Distributor Opens Houston Branch

DALLAS—Ben Colgin, owner of the Texas Ice Machine Co. here, distributor of "Scotsman" ice machines, has announced the opening of a branch in Houston.

The new branch, located at 1612 Pierce St., is managed by Roy Williams.

Colgin said increased demand for and usage of Scotsman ice machines necessitated the move.

Alexandria Wholesaler Completes New Plant

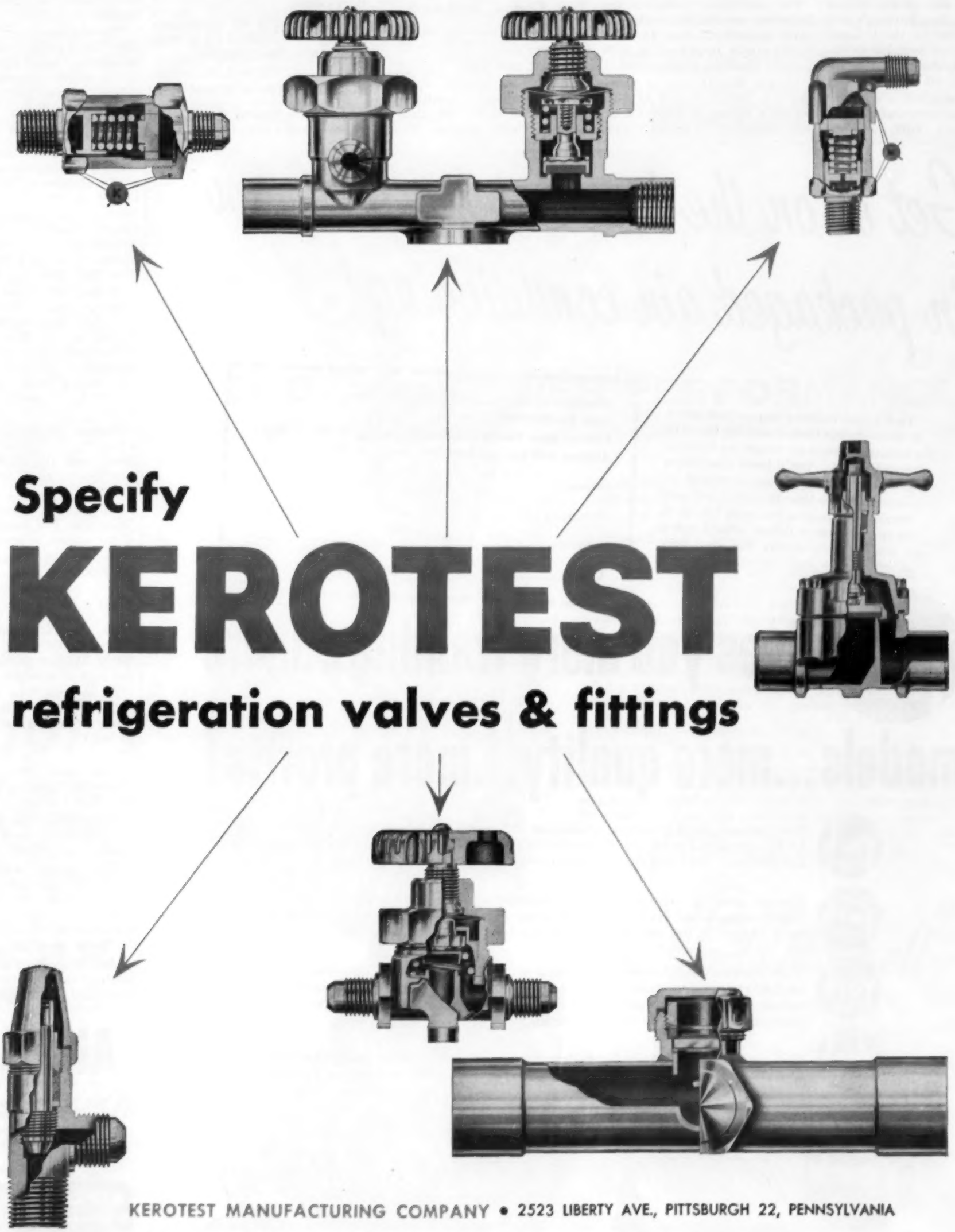
ALEXANDRIA, La. — The American Supply Co., Inc., wholesale distributor of refrigeration, air conditioning, plumbing, heating, industrial, and mill supplies, has opened its new plant at 3333 Broadway St.

John Swanson is president of the corporation; Lee Sumrall, vice president; and J. T. Sumrall, secretary-treasurer.

Recold Names Gorrell Carolina Distributor

LOS ANGELES—L. R. Gorrell, Raleigh, N. C., has been appointed distributor for "Recold" air conditioning and refrigeration equipment in North and South Carolina, according to Hy Jarvis, president of Refrigeration Engineering, Inc. here.

Gorrell started as a partner in the contracting firm of Morris & Gorrell, Inc.



KEROTEST MANUFACTURING COMPANY • 2523 LIBERTY AVE., PITTSBURGH 22, PENNSYLVANIA

For more information about products advertised on this page use Information Center, page 26.

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

Later that night Dykes mock-protested:

"Mr. Mack, sir, if I can't trust a gentleman like you, the world is in a sorry state."

Cold Stove League Stuff

Here's the oddest putout anyone has come across in a quarter century.

In the Texas League (1955) Bill Greason was on the mound for Houston. San Antonio's Bob Caffery perched on third. Greason wild-pitched over his catcher's head. Caffery dashed for home and so did the pitcher.

The ball smacked a concrete retaining wall, rebounded right into Greason's mitt, and he tagged Caffery for an unassisted putout.

All three outs credited to a single batter in one inning! Yep, Dick Tettelbach managed it June 30, 1955, while working in Denver.

Dick popped to the St. Paul shortstop for the first out. Thereupon his teammates rallied for eight runs. Up came Tettelbach again. He ended this outsize rally ignominiously by grounding into a double play.

How Would You Figure the Odds?

For anguished moments the following recount may take the cake. Detroit led New York 6-4 in the ninth inning of a 1955 Yankee Stadium engagement.

Mickey Mantle was on third, two out. Relief pitcher Al Aber served a sinker to Andy Carey, who topped it. It couldn't have rolled more than three yards; but Aber wild-heaved it 300 yards over first base into left field. Mantle scored, and so did Carey.

New record: A four-base throwing error! The Yanks won it in the tenth, natch.

Fanning bee in Florida. Question: Was Hans Wagner a better all-round shortstop than Lou Boudreau?

Wagner himself was drawn into the argument.

"I wouldn't know," Honus classicked, "I never saw myself play."

Now Comes Romance

The bride wore a catcher's mitt.

Honest and true.

Nancy Gail Seaman carried a white satin catcher's mitt when she walked down the aisle to marry Tiger pitcher Duane Maas. Happened Nov. 12, 1955, in a Rochester, Mich., church.

Attendants carried bouquets shaped in the forms of bats and balls.

How About This, Khrushchev?

As a fielder he was strictly from hunger; but Lou Novikoff, "the Mad Russian," batted well above .350 in both the Pacific Coast League and the American Association.

Up with the Cubs he was a sensational flop.

"What's with the Mad Russian?" manager Jim Wilson was interviewed.

"If I couldn't hit curves any better than Novikoff I'd be mad, too," came the rejoinder.

Requiem for a Great Guy

After he passed the Biblical three-score-and-ten lifespan, Washington owner Clark Griffith cast aside all interests except baseball. Read only the sports sections of the newspapers.

Now, let's backtrack. Arthur Godfrey had won his radio spurs locally in Washington, and "Griff" was Art's friend in those days—12 years previous to the situation we shall relate. In the meantime, Godfrey became the biggest thing in mass-production show business.

Of this Mr. Griffith was unaware.

On a nation-wide hookup from Florida "The Great Man Godfrey" interviewed Clark Griffith, and recalled old times in Washington.

"By the way, Art," Mr. Griffith interjected during the broadcast, "what are you doing on a sports program? Aren't you still a disc jockey?"

Born Too Late

Hearing tales about Casey Stengel's antics during the Yankees' exhibition tour of the Orient in 1955 brings to mind strange experiences of the Giants when they toured the British Isles in 1924. Casey Stengel was with that touring New York club, too, as a player.

Cricket, of course, is the national pastime in Britain. Possibly that's why the British were baffled by the American game of baseball. Spectators tried to appreciate, but they cheered at the wrong time, and sat in silence when terrific plays were made.

During one game Stengel hit a foul fly. He got a tremendous hand from the 14,000 Englishmen assembled in Wembley stadium.

"Jeepers," Casey amazed. "Now that I've reached the end of my career, it seems that I've been playing in the wrong country."

That's All!

At an early point in his *Memoirs*, former President Harry Truman reminisced about the joys of baseball.

"I umpired," he wrote without even blinking an eye, "because I couldn't see well enough to bat."

Not until 1955 could the Brooklyn Dodgers win a baseball World Series.

Traditionally their ever-hopeful followers used to console themselves: "Next year. . . ."

Thirty-four minutes after the 1955 Dodgers whipped the Yankees in the seventh and deciding contest, a New York tabloid screamered:

"THIS IS NEXT YEAR."

And that's how all fans of all professional baseball teams hopefully feel at this moment.

Get in on the best training program in packaged air conditioning!

York's new training course took years to develop, but there's nothing like it in the industry! You'll be taught by factory-trained experts. You'll learn everything you need to know about packaged air conditioners—how to sell, install and service them—and you won't have to be an engineer to follow what's going on. Get complete details. See your York distributor, or mail this coupon today!

Manager of Sales, Commercial Division
York Corporation, York, Pa.
Tell me how York's new training program for Yorkaire dealers will put more dollars in my pocket.
Name_____
Company_____
Address_____
City_____ Zone____ State_____
ACA

York refrigeration air conditioning gives you more training...more models...more quality...more profits!

You name it, York makes it! Waterless and water-cooled units from 2 hp. to 15 hp.; models for off the floor, through the wall, remote, and multi-space installations. York has the answer to every air-conditioning problem.

Greater cooling capacity with no increase in power consumption—that's York's sensational Hi-Ef cooling system! New Sealed Air Circuit (exclusive on 3, 5 and 7½ hp. models) keeps motor heat out of cool air flow.

York's hermetically sealed cooling system means "packaged" construction—no field charging, no tubes to run, no field fabrication. There are no expansion valves to get out of order, no gasketed joints—no major service problems that cause profits to go down the drain.

Find out about the *Yorkaire Big 4*—four dynamically new selling approaches that will send your sales and profits soaring! Get in touch with your nearest Yorkaire distributor, or mail the coupon today!

York refrigeration air conditioning *the quality name in air conditioning*

AIRO stands for
Fast, dependable, world-wide service.
Refrigeration and Air Conditioning parts and supplies.
Write for current Catalog
AIRO SUPPLY CO.
2732 N. Ashland Ave., Chicago 14, Ill.

For more information about products advertised on this page use Information Center, page 26.

Independent Grocers See Need To Provide Space for Frozen Meats and Poultry

CHICAGO—The Independent Grocers Alliance is recommending to member grocers building new stores that they allocate at least 20 ft. of freezer cabinet space to frozen meats and poultry, Glenn Curtis, head of the IGA meat division declared recently.

Speaking at a meat workshop at the annual convention of the National American Wholesale Grocers Association here, Curtis expressed the belief that "we are entering an era of frozen meats."

However, he said, the change would be evolutionary rather than sudden. No meat packer has the facilities to process and transport frozen meat on a large scale today, Curtis indicated.

Also, a supermarket doing a $10,000 a week volume would require freezer storage space for about 25,000 to 30,000 lbs. of meat.

He thought that if packer prepackaged fresh frozen red meat attained 15% of retail meat volume in five years, the industry would be doing a good job of promotion.

Clem Krekeler, president of Tom Boy, Inc., a voluntary grocer group in St. Louis that home delivers wax dipped frozen meat, said the frozen meat program was not too great a gamble, because the needed storage space can also be used for other frozen foods.

Francis L. Whitmarsh, Jr., of Francis H. Leggett & Co. of New York City, advised another convention session that "the wholesale grocer cannot survive if he doesn't get into frozen foods.

"If he doesn't handle them, he will not be associated with one of the fastest growing parts of our business," he declared.

He said his firm's experience indicates that the wholesale grocer can cut costs 7 to 8% under a frozen food distributor's costs.

Henry Kohorn of E. A. Aaron & Bros. of Chicago, asserted that eventually wholesalers would do 25 to 30% of their volume in frozen foods.

Dan Goldman, supermarket operator in New York City, stated that, despite packers complaints of inadequate display space, there never will be enough room in supermarkets to display all items.

He urged the use of imaginative gimmicks to draw attention to frozen food items.

Weber 'Caravan' To Visit 29 Cities

LOS ANGELES—Headed by its president, Karl Weber, Weber Showcase & Fixture Co., Inc., Los Angeles and Grand Rapids, Mich., is conducting a "Cabinet Caravan" to 29 cities.

The Caravan carries models of the new Weber "Economy Line" of ice cream cabinets, plus the "Blizzard" and "Roll-A-Door" lines.

The new lines are being unveiled at luncheons in Phoenix, Dallas, Houston, New Orleans, Memphis, Atlanta, Miami, Jacksonville, Charlotte, Washington, Philadelphia, New York, Boston, Syracuse, Pittsburgh, Cleveland, Detroit, Cincinnati, Chicago, St. Louis, Minneapolis, Kansas City, Omaha, Denver, Salt Lake City, Seattle, Portland, and San Francisco.

WHAT . . WHEN . . WHERE

— A Guide to Coming Events of Interest

Gas Appliance Manufacturers Association (GAMA)
Annual Meeting
April 19-21, The Greenbrier, White Sulphur Springs

Air-Conditioning & Refrigeration Institute (ARI)
Annual Meeting
May 7-9, The Homestead, Hot Springs Va.

National Restaurant Association (NRA)
Convention and Exposition
May 7-11, Navy Pier, Chicago

Mechanical Contractors Association of America (MCAA)
Annual Meeting
May 15-18, Kentucky hotel, Louisville, Ky.

American Society of Refrigerating Engineers (ASRE)
Summer Meeting, June 3-6, Cincinnati

Edison Electric Institute (EEI) Annual Convention
June 4-7, Atlantic City, N. J.

National Oil Heat & Air Conditioning (NOHAC) Exposition
June 11-15, The Coliseum, New York City

American Society of Heating & Air-Conditioning Engineers (ASHAE) Semi-Annual Meeting
June 18-20, Washington, D. C.

Keep Your

BAKER

Cool

with

BAKER PARTS

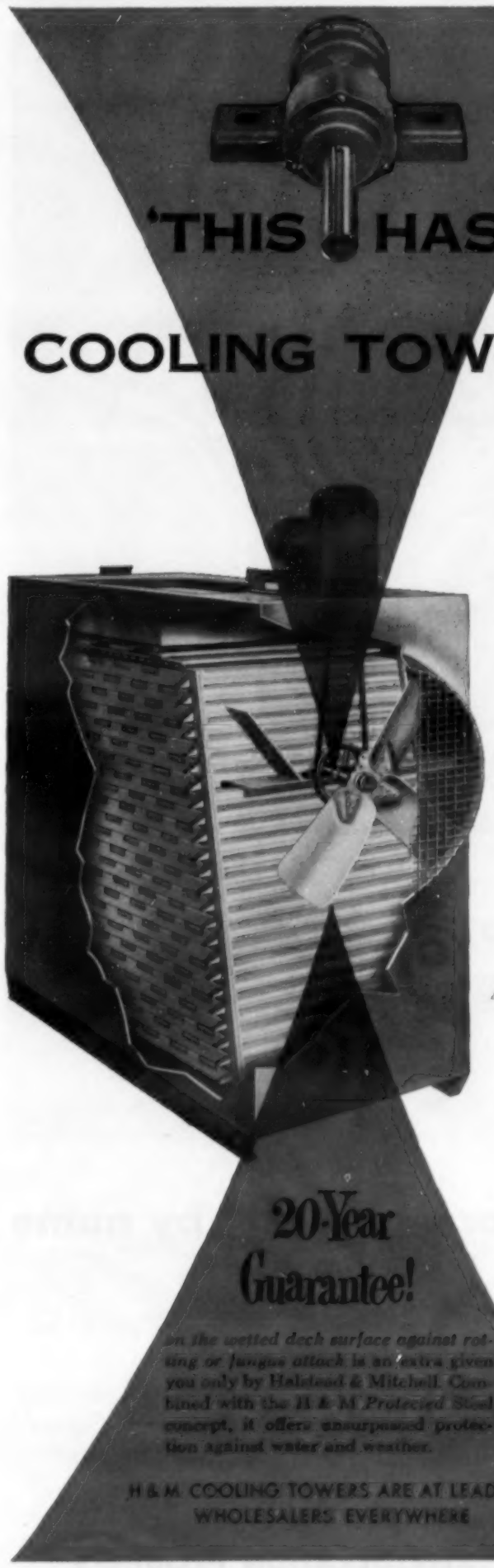
Your faithful servant, the BAKER ice machine will give you continuous cooling if you make it a habit to use *genuine* BAKER parts. *All* parts available for *all* BAKER compressors. Contact us, or your nearest BAKER distributor.

PAXTON-MITCHELL company

27th and Martha Sts. Omaha 5, Nebraska

So Halstead & Mitchell engineers said:

'THIS HAS A BEARING ON COOLING TOWER PERFORMANCE'



Nothing has more bearing on cooling tower performance and life than do tower fan bearings. On them turn the induced draft cooling tower's *only moving parts.*

Announcement by Halstead & Mitchell engineers of a *permanently* sealed and lubricated fan bearing means a bearing so designed as to completely eliminate moisture —and consequent rusting of the bearing balls and races. The *elimination of periodic greasing* cuts your tower maintenance costs to an absolute minimum . . . literally adds years to cooling tower life.

With not a single bearing failure reported from the hundreds of these "new bearing" towers in actual use, Halstead & Mitchell offers you . . . now more than ever . . . the best buy in cooling towers on the market today

SUPER-QUIET, 4-BLADE FANS, TOO!

There are new fans, too, on Halstead & Mitchell Cooling Towers—deep-pitch fans which operate at much, much lower speeds—actually *cut cooling tower noise level in half.* Sturdy, stainless steel fan blades . . . stainless steel fan shafts . . . make sure your tower will have not only a quiet life, but a long one, too!

For Complete Details, Write for Bulletin CT-584

20-Year Guarantee!

on the wetted deck surface against rotting or fungus attack is an extra given you only by Halstead & Mitchell. Combined with the H & M *Protected* Steel concept, it offers unsurpassed protection against water and weather.

H & M COOLING TOWERS ARE AT LEADING WHOLESALERS EVERYWHERE

HM

Halstead & Mitchell

BESSEMER BUILDING, PITTSBURGH 22, PA.

New Bearing available 5 thru 50 Tons

CAN YOU FILL THESE SHOES?

Typhoon Air Conditioning Has Lucrative Openings for 2 District Managers

If you are qualified to direct sales of packaged air conditioners in important territories, this ad may be a major opportunity for you. Leading specialist in packaged units, with most complete, nationally-advertised line in the industry. Water-cooled and air-cooled, commercial and residential, all sizes. 100% factory cooperation, with finance and warehouse plans, hard-hitting dealer promotion material. Full details required, including experience, references, etc. Your confidence will be strictly respected. Write Mark E. Mooney, Typhoon Air Conditioning, 505 Carroll Street, Brooklyn 15, N. Y.

Whirlpool-Seeger Annual Report Outlines Growth, Reveals Future Expansion Plans

ST. JOSEPH, Mich.—The first annual report of Whirlpool-Seeger Corp. showed net sales of $280,362,765 for the calendar year ended Dec. 31, 1955.

The company is the result of a merger of Whirlpool Corp. and Seeger Refrigerator Co. into a corporation to which Radio Corp. of America had, prior to the merger, transferred its kitchen range and air conditioning departments.

Combining the results of operations of Whirlpool and Seeger for the period from Jan. 1 to Sept. 15, the date of the merger, and of Whirlpool-Seeger from Sept. 15 to December 31, total net sales for 1955 were $280,362,765. Combined net earnings after provision for income taxes were $14,129,908, representing 5.04% of net sales.

After provision for dividends on the 4¼% cumulative convertible preferred stock for the full year, net earnings amounted to $2.70 per common share based on 4,970,429 shares, the average number of such shares outstanding during the year.

Adding the operations of RCA stove and air conditioning departments for the period from Jan. 1 until Sept. 15, total sales were $301,695,814 and net earnings after provision for income taxes were $14,638,752.

These net earnings after provision for dividends on the preferred stock for the full year amounted to $2.40 per share on the 5,804,857 common shares outstanding at year-end.

Since formation of Whirlpool-Seeger, sales personnel for home appliances has grown from 57 to 139 persons, two executives noted, declaring that the additional product lines now being marketed "provide a strong base for the full line of functional home appliances which is planned."

COMPLETE REFRIGERATOR LINE FOR FALL

A complete line of RCA Whirlpool refrigerators is now being designed for introduction this fall, it was disclosed. The new and improved 1956 line of RCA Whirlpool window air conditioners, utilizing the RCA electronic filter, "was enthusiastically received by distributors at initial showings in November and December." An "advanced line" of gas and electric ranges is planned.

Extension of use of network television from home laundry to other lines during 1956 is also planned, the officials stated.

The long standing and mutually satisfactory relations between Seeger and Whirlpool with Sears Roebuck & Co. "continue to provide a solid basis for growth," they observed, noting that in the calendar year the company enjoyed the "continued and more substantial" efforts of the Sears organization for which it makes Coldspot refrigerator and freezer lines and Kenmore home laundry appliances.

A growing volume in refrigerated milk coolers for dairy farms and ice makers for multiple uses was observed.

CITES BENEFITS OF I-H PURCHASE

Acquisition of the International Harvester Co. refrigerator plant and equipment at Evansville, Ind., resulted in the following major benefits to Whirlpool-Seeger:

"An earlier availability of refrigerators and freezers to be sold under the RCA Whirlpool brand name; a substantial savings over estimated costs of constructing and equipping a similar facility; and utilization of former International Harvester design and development engineers."

Purchase price of the Harvester facility was $19,000,000. To replace the capital required for this purchase and for other corporate purposes, the company plans an issue of $30,000,000 of long-term sinking fund debentures (due Aug. 1, 1980) early in 1956.

(The company put the new debt securities into registration with the Securities & Exchange Commission, along with 150,000 shares of its common stock to be sold by the trustees of the savings and profit sharing pension fund of Sears Roebuck employes.

(The registration statement disclosed that of the 5,804,857 shares of Whirlpool-Seeger common stock outstanding, RCA owns beneficially and of record 1,158,563 shares and a group headed by Sears Roebuck will own a total of 933,017 shares [in addition to 55,879 shares of Whirlpool-Seeger 4¼% preferred] after the proposed sale of the 150,000 shares.

10-YR. VOTING TRUST AGREEMENT

The new administration building at St. Joseph has been replanned and is expected to be ready for occupancy during the last quarter of 1956, the Whirlpool-Seeger report continued.

Whirlpool-Seeger plans to distribute its full line of products in the export field through RCA International Div., beginning with the 1957 lines, it was disclosed. Some products bearing the RCA Whirlpool and RCA Estate brand names are now being sold in foreign countries by the division.

In October, an agreement was signed with Officine Galileo, Milan, for production and sale in Italy of the Seeger rotary compressor for use in refrigerators and air conditioners. Negotiations are under way with leading firms in Germany, Spain, and Great Britain for production of the compressor in those countries.

Here's why it pays to ask for Anaconda by name

1. Anaconda Refrigeration Tube is 99.9% pure copper, phosphorus deoxidized—clean—dry—made to meet A.S.T.M. Specification B280-55T. It stands up in service.

2. Anaconda Refrigeration Tube is consistently uniform in gage, size, temper—easy to work with.

3. Anaconda Fittings, Vibration Eliminators, and Tube are built to match—for fast, easy installation.

4. *All* these extra values are yours—just by asking for Anaconda by name.

See your Anaconda Distributor, The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

ANACONDA®
REFRIGERATION PRODUCTS

For more information about products advertised on this page use Information Center, page 26.

Westinghouse Appoints Bryant to Sales Post, Paulson Room Unit Head

SPRINGFIELD, Mass. — Appointments of H. R. Bryant as sales manager for Westinghouse refrigeration specialties and C. W. Paulson as manager of the company's room air conditioner department were announced recently by H. F. Hildreth, manager, refrigeration specialties.

H. R. Bryant

C. W. Paulson

Bryant will be responsible for the direction and over-all performance of the Westinghouse refrigeration specialties regional and district sales offices throughout the country. Products included in the refrigeration specialties group are room air conditioners, water coolers, dehumidifiers, and beverage coolers.

Bryant has been manager of the room air conditioner department since it was officially organized at the Springfield plant in 1953.

Prior to that time, he had served for four years as northwestern district manager of the company's electric appliance division, and for two years before that was district sales promotion manager for the same district which is headquartered in Chicago.

Paulson succeeds Bryant as manager of the room air conditioner department. Paulson has been assistant to Hildreth, a post he has held since attending the company's Middle Management Training Program at Harvard university where he received an MBA degree.

Paulson's previous service with the company included the post of northwestern district advertising and sales promotion manager and, prior to that, sales promotion manager for Westinghouse Electric Supply Co. at Chicago.

York Names Secord Zone Sales Supervisor In Central District

CHICAGO — T. D. "Tom" Secord has been appointed zone sales supervisor for York Corp.'s central district, it was announced recently by J. L. Roth, district manager-commercial.

Secord will contact wholesale distributors of York room air conditioners in Illinois, Michigan, and Wisconsin, and will assist them in acquiring and training dealers.

He also will help create sales promotion and dealer training programs.

Prior to joining York in January of this year, Secord was sales manager for North American Distributors and, before that, was with Fedders-Quigan Corp.

Olympic Radio & TV Offers 3 Room Units

LONG ISLAND CITY, N. Y. —Re-entering the air conditioning field after a year's absence, Olympic Radio & Television, Inc. is offering three deluxe models in its 1956 line of room air conditioners, it was announced by Herbert Kabat, vice president in charge of sales.

Kabat noted that "the factory is not setting a suggested list price on our air conditioners, but will allow branches and distributors to set their own area's prices. We are doing this to help our dealers meet local competitive conditions."

The company's line includes model OW675D, ¾ hp., 115 volts, 60 cycle a.c.; model OW675L, 7½ amps, ¾ hp., 115 volts, 60 cycle a.c.; and model OW6100D, 1 hp., 230 volts, 60 cycle a.c.

TWO ¾ and one 1-hp. models are included in Olympic Radio & Television, Inc.'s 1956 room air conditioner line.

All models have automatic thermostat control, concealed control panel with pushbutton controls, and adjustable air-flow louver.

An installation kit is included for standard double hung windows up to 40 in. wide, and units may be flush mounted or installed half in, half out.

Finish is neutral "Arctic Green." Over-all dimensions are 16⅝ in. high, 26½ in. wide, 30⅜ in. deep.

Whirlpool-Seeger Ups 2 to General Manager

ST. JOSEPH, Mich. — Appointment of two product division general managers for Whirlpool-Seeger Corp. was announced recently by John A. Hurley, vice president of the company.

Lincoln M. Larkin has been named general manager of the air conditioner division and Sol Goldin general manager of the range division.

Larkin was formerly industrial division sales manager. Prior to joining Whirlpool-Seeger, he was associated for many years with General Electric Co. and R. Cooper, Jr., Inc., Chicago distributing firm, in the air conditioner field.

Goldin joined Whirlpool-Seeger last year as range division product manager. Previously, he was buyer for Strawbridge & Clothier, Inc.

4 Airtemp Packaged Units To Condition Rome Display Store

DAYTON — Destined for Rome, Italy, four Airtemp "Packaged" air conditioners were recently shipped from the factory.

Airtemp Div. of Chrysler Corp. is furnishing the equipment for the air conditioning of a "typical American Supermarket" which is being erected in Rome under the auspices of the National Association of Food Chains.

The store, completely equipped and stocked, will be on display during the International Congress of Food Distribution and International Association of Food Chains meetings which will be held June 17 through 24, 1956. It is expected that the display will attract thousands of food industry leaders from more than 20 nations.

THERE IS AN
®AMER-glas FILTER
FOR EVERY AIR CONDITIONING NEED
(Green filter available ½" size only)
The filter in a modern air-conditioning unit is required to handle a large volume of air, at high velocities and with a minimum of actual filtering media. Also, it must offer minimum resistance to air flow, yet have maximum dirt-catching power.
Don't take chances. Use the filter installed by leading manufacturers as original equipment in today's improved units. And write for a sample of AAF's attractive new GREEN filter, one of the very first true air-conditioning filters! Available ½" thick only in a complete range of sizes.
FILTER PROBLEMS SOLVED HERE
American Air Filter maintains a testing laboratory and a complete staff of filter experts at their new AMER-glas plant. Whether you have a filtering problem, or a problem filter, why not call on the leader in filters for air-conditioning units.
AAF American Air Filter COMPANY, INC.
109 Central Avenue, Louisville 8, Kentucky

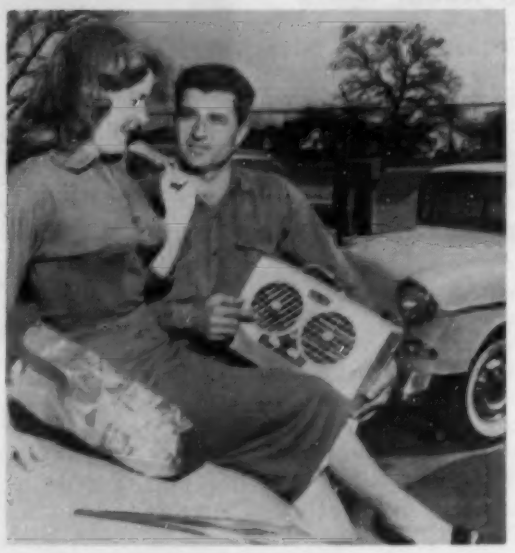
Auto Cooling Ups Sales for Southwest Food Distributor

DALLAS — Automotive air conditioning was credited with producing "phenomenal improvements in sales, efficiency, and morale," by executives of Morton Foods, one of the southwest's largest manufacturers and distributors of potato chips and other packaged foods.

N. A. Cadell, Morton's vice president in charge of sales, called the innovation "the greatest sales and morale builder" of his experience.

"Since last July, when we equipped our salesmen's cars with 'Frigiking' air conditioning units, sales have increased at least 25%," Cadell disclosed.

"It is one of the greatest things that ever happened to salesmen and sales managers. Our entire sales staff is in a much better frame of mind and I'm convinced that we've hit on the greatest sales and morale builder in existence," he added.



VERNON E. HUNTER, shop foreman of the Morton Foods plant, Dallas, Texas, describes the virtues of Frigiking automotive air conditioner to curvesome Barbara Tolbert, plant receptionist.

Gerald Morton, vice president in charge of transportation of the Dallas firm, which also operates large plants in Fort Worth and Lubbock, Texas, stated in a special report to the board of directors, that more than 75% of all the company's automobiles and tractor cabs are now equipped with air conditioning.

At present, air conditioning units have been installed in 40 Morton-owned Fords, Mercurys, Dodges, Whites, and Internationals. About 10 more Frigikings and 'Frigikabs' will be installed by summer.

Working out of the company's three factories, Morton salesmen, supervisors, and delivery truck drivers cover Texas, Oklahoma, Louisiana, and New Mexico.

"Our salesmen drive as much as 200 and 300 miles a day the year-round. Before we air conditioned their cars, most of our salesmen would find it necessary to go to hotels, take showers, and change clothes in each town prior to making any calls," Morton said.

"Last summer, with air conditioned cars, they arrived at their destinations fresh and ready for work and, of course, they made more calls each day and they were more contented than ever before," Morton added.

"Our road drivers now cover more territory in less time than before the tractor cabs were air conditioned. Besides, I'm sure the value of the innovation is reflected in our safety record and in a virtual moratorium in summer personnel turnover," Morton asserted.

G. C. Morton, president of the firm, plans to ultimately air condition every company-owned vehicle which permits installations.

More Cool Cabs To Be Seen In N Y This Summer

NEW YORK CITY—If persons here, looking for a cab, are sharp-eyed this summer they can enjoy the treat of riding in an air conditioned taxi.

At least one fleet of 50 New York City cabs and a number of individually owned ones will be equipped with refrigerated air conditioning this year.

But the Police Department's Hack Bureau will not allow these taxis to be marked as "air conditioned." So those who wish a cooling ride will have to spot the right cab by visible equipment necessary to produce conditioned air, it was added.

Unfair competition was the reason given by the Hack Bureau for not permitting the marking.

However, most of the cooled cabs will be easily identifiable by the air intakes behind each rear side window. Although one make of automotive air conditioning does not use these scoops, potential passengers can look for a transparent plastic tube at the rear of the back seat, it was pointed out.

It is believed there are now six air conditioned taxis operating in New York City. First to install the equipment was Al Parnis of Brooklyn. He said others had been watching his conditioning to see how it worked out.

"It has worked out just fine," he said. His prime motivation, he went on, for spending nearly $600 for the installation was a regard for his personal comfort. The machine, he declared, keeps him cool and collected even in the worst traffic snarls or the muggiest weather.

"This thing pumps out old air right away," he stated. "Cheap perfume and strong cigar stink goes right out."

The air conditioning "has paid for itself a couple of times over already," he asserted.

Delighted riders asked him where he could be reached by phone shortly after he put in the unit, and soon he was carrying on a brisk trade in profitable rides beyond the city limits, it was reported.

An official of James F. Waters Co., Long Island City, one of the metropolitan area's principal taxicab dealers, said that fleet companies believed air conditioning would increase driver efficiency, the report added.

UP TO 6000 RPM
to meet every driving and weather condition

Model V-93 Automotive Air Conditioning Compressor

When Old Sol again starts to blister the highways and streets, the coolest cars on the road will be sporting America's 'hottest' air conditioning compressor — Lehigh's *Model V-93*. This pint size giant, designed and built for this one purpose only, can operate with gyroscopic smoothness at 6000 RPM and can produce up to three (3) tons of refrigeration. The fabulous V-93 was conceived and developed by Lehigh engineers working in close cooperation, for more than two years, with America's leading automobile manufacturers and air conditioning specialists. Among its major construction and engineering features are: Gear pump, forced feed lubrication to all moving parts. Forged steel crankshaft *counter-balanced to ¼ inch ounce*. Die-cast aluminum connecting rods and pistons. Aluminum alloy heads. Assembly to ± .0002 — a tolerance which is closer than that of a fine automobile engine. SIZE — only 7½" high — to fit under the hood of modern cars — 9⅞" long and 8½" wide. WEIGHT — only 31½ lbs. including service valves and oil charge. The LEHIGH TEAM is rightly proud of this 'baby' and will be glad to send you additional engineering data.

Lehigh BLU-COLD COMMERCIAL REFRIGERATION
Lehigh MANUFACTURING CO.

"America's Most Modern Condensing Units"
PACKAGED, STANDARD & HEAVY DUTY
•
Road Proven
REFRIGERATED TRUCK SYSTEMS
•
Compressors for
AUTOMOTIVE AIR CONDITIONING

DIVISION OF LEHIGH, INC. Plant: LANCASTER, PENNA.
Export Department, 13 E. 40th Street, New York City

For more information about products advertised on this page use Information Center, page 26.

Heating, Cooling Loss Through Entrances To Be Research Subject

CLEVELAND — The amount of winter heating or summer cooling lost by traffic through building entrances is the subject of a new research project by the American Society of Heating and Air-Conditioning Engineers, it is announced by Prof. Burgess H. Jennings, chairman of the committee on research of the society.

The program will be conducted at the ASHAE Research Laboratory here by Lester F. Schutrum, research supervisor, and T. C. Min, research engineer, under the guidance of the technical advisory committee on heating and air conditioning loads.

It is expected, according to Elmer R. Kaiser, ASHAE director of research, that the results of this program will be of particular importance to manufacturers of doors, building owners, and managers, and heating, ventilating, and air conditioning engineers.

2-Year, 2-Phase Program

Kaiser explained that the program, which will require a minimum of two years, is to be conducted in two phases involving laboratory work and field tests in a number of cities.

The field tests will be made to record the traffic through entrances of various types of buildings at different times of the day including peak rush hours.

Large and small, multi-storied and one-story buildings will be tested. Motion picture cameras and indicators above the doors will be used to record the precise amount of door opening at each fraction of a second. Simultaneously, sensitive instruments will measure the pressure differences across the entrances, because the amount of door opening affects the stack effect.

Tests Set for Laboratory

The measurement of air flow cannot be done easily in the field, continued Kaiser, and for this reason the tests will be confined to a wind tunnel in the ASHAE Research Laboratory.

This will provide for accurate measuring of air flow which can be related to that experienced with actual building entrances. The model tests will include single doors, multiple doors, and vestibules in a variety of combinations.

With the information from the field and laboratory tests compiled in suitable tables, practical estimates of air flow under various conditions will be possible, he said.

Hendricks Supply To Distribute UsAirco

MINNEAPOLIS — Hendricks Supply Co., Grand Rapids, Mich., has been named a distributor by United States Air Conditioning Corp., it is announced by R. P. Kelley, general sales manager of UsAirco.

Headed by Herman M. Hendricks, president, and Erbin Richards, vice president and secretary, the firm will handle the complete line of UsAirco residential and commercial air conditioning equipment.

Air Conditioning Rapidly Changing Realty Valuations

DALLAS — Realtors should give more serious consideration to the fact that air conditioning is rapidly changing realty valuations, two air conditioning spokesmen—W. S. Miller of Houston and Marvin Brown, Jr., of Dallas—declared at a recent luncheon of the Dallas Real Estate Board.

Miller said a recent study showed that beauty shops had 33% more business than their non-air conditioned competitors, physicians' offices with air conditioning had a 24% lead, and air conditioned restaurants had a 36% larger trade.

However, Miller stressed, realtors must make sure that air conditioning includes certain vital features. He said these are uniform cooling, humidity control, lack of noise, and simple controls.

Brown said that in home real estate, the increased valuation of the property is best sold when the specific benefits of air conditioning were pointed out to the prospective buyer.

Dallas Morning News Adds More Cooling

DALLAS—Another phase of completely air conditioning the Dallas *Morning News* building has been completed, it was reported here recently.

A 25-ton unit which gives separate air conditioning to the employes' cafeteria plus additional ductwork and units for the existing system in the second-floor advertising section was installed by Texas Refrigeration and Engineering Co.

This job follows several previous ones in air conditioning the *News* building.

Campbell Soup Plans Air Conditioned Bldg.

CAMDEN, N. J. — Campbell Soup Co. announced recently that it has awarded a contract for erecting a new air conditioned office building at Civic Center here.

The structure will house the company's general offices. It will be built on a 14-acre plot of ground at the site formerly occupied by the Camden Convention Hall.

The building will be a two-story structure containing about 130,000 sq. ft. and will be entirely air conditioned.

The installation will include complete metal service facilities, it was added.

Alexander D. Crosett & Associates of New York is the architect and Turner Construction Co. the contractor.

Macon To Cool Main Floor of City Hall

MACON, Ga.—According to Mayor B. F. Merritt, Jr., offices on the main floor of City Hall will be air conditioned before the hot summer months begin.

Offices slated for air conditioning are the mayor's, city clerk's, purchasing agent's, tax assessor's, marshal's, and treasurer's.

The Council Chamber will have an air conditioning system whereby it can be turned on during meetings.

Mayor Merritt said plans now are for either a 25-ton or 30-ton system to be installed in the building. The plans provide for expansion if officials later decide to air condition other parts of the building.

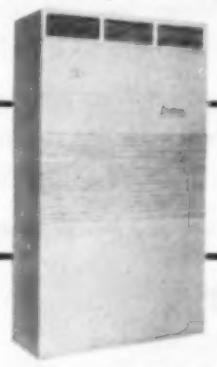
Another air conditioning job planned by the city is the City Auditorium, it was stated.

Big news from Airtemp! In certain areas we are expanding our dealership franchise in Chrysler-engineered Air Conditioning Systems. To assure our customers of the best service possible, we are accepting new dealerships under the new "Big Nine" Plan. If you qualify under the nine points listed here, please contact us at once. We will send you a copy of "The Airtemp Story—an objective view of your future as a dealer in air conditioning and heating." If you qualify, write or call today!

1. *You must have—and demand from us—integrity, experience, leadership potential.*
2. *You must insist on a product with outstanding consumer preference.*
3. *You must welcome strong distributor backing and servicing.*
4. *You must desire continuous dealer education and information.*
5. *You must be willing to call on engineering assistance when you need it.*
6. *You must be willing to call on sales assistance when you need it.*
7. *You must ask for financial assistance when you need it.*
8. *You must want your sales aided by large-scale national advertising.*
9. *You must want sales-producing promotion in your local market.*

Can you qualify for an Airtemp Franchise Dealership under those nine points? If so, your Airtemp distributor offers you the one line of air conditioning that meets every need. Call your nearby distributor or write: Airtemp Division, Chrysler Corporation, Dayton 1, Ohio.

Airtemp
DIVISION
CHRYSLER CORP
DAYTON 1, OHIO



THE *FORWARD* LOOK IN AIR CONDITIONING

THE COMPLETE WATER-COOLED OR WATERLESS LINE
Airtemp gives you a big choice in both waterless and water-cooled "packaged" air conditioners. 13 sizes from 2 H.P. to 30 H.P.

AIRTEMP *BUILDS* AIR CONDITIONING FOR EVERY BUSINESS REQUIREMENT

For more information about products advertised on this page use Information Center, page 26.

Tips from the Experts

Answers to Questions Asked by Men Who Are Installing Residential Air Conditioning

If You're In Home Air Conditioning, Don't Miss This

If any part of the work you do involves the engineering or installation of complete residential air conditioning systems, the material on these pages may afford more good "tips" than you might pick up in five years of actual experience. It represents the answers of a group of real experts, to questions put by men actively engaged in working on such installations.

DETROIT — What does the heating and sheet metal contractor want to know about residential air conditioning?

Here are some of the questions fired at a panel of experts on the subject at a recent convention of the Michigan Heating & Sheet Metal Association, Inc. Following the questions are the answers given by the panel.

The panel was composed of Ralph Gonzales, director of application engineering for Airtemp Div., Chrysler Corp.; Eston Swain, assistant chief of application engineering for C. A. Olsen Co.; and Robert Waalkes, product engineer for Hart & Cooley Mfg. Co. Emanuel Feinberg, president of Cool-ette, Inc., also joined in the discussion.

Q. If you hook up a cooling coil with a furnace so that cold air is blown through the furnace, will that deteriorate the heat exchanger?

A. (Gonzales) In the southern part of the United States, experience has shown that the furnace will rust out in one or two seasons. But in the northern midwest area, we don't have the problem so much. I believe this is because we don't very often have days with high dewpoint. Still, it is good practice to put the cooling coil after the heat exchanger.

If the coil is placed on the entering air side of the furnace, vapor will migrate down to the furnace heat exchanger, combine with the products of combustion there, and create a corrosive mixture.

(Swain) Another good reason for not putting the coil on the return air side of the system is that there are many codes about the country that prohibit it.

Q. Is it advisable to use the basement as a return air plenum for air conditioning, though keeping a closed return system for heating ? Would that give you the advantage of the cooler air in the basement?

A. (Waalkes) I would lean to the ducted return for both air conditioning and heating. You will get better control of air distribution this way. If you use the basement as the return plenum, you will only get the advantage of the cool basement air on the first air change. After that it will be the same as the air in the house.

Using the basement as a return air plenum means that you have to figure the basement in your heat load calculations. You also increase your moisture and heat leakage problems.

(Gonzales) Using the basement as a return air plenum is also conceivably a fire hazard. I would not recommend it.

(Feinberg) Recognizing the fire hazard and the other dangers, we have found that passing return air through the basement has helped to eliminate condensation collecting on the outside of the cool air ducts in places where condensation had become a problem.

Q. In an existing home with a warm air heating system can you use the existing ducts for cooling as well as for heating?

A. (Swain) Generally it is not too satisfactory. There are several reasons for this. First, heating ducts are almost invariably designed for 160° to 170° F. bonnet temperatures. That is all right for straight heating units. But rarely in a combined system do bonnet temperatures go over 150° F. That means you are going to have to put more air through the ducts in order to get adequate heating.

Second, most heating ducts are designed for .2 in. static pressure. When you install a cooling coil, you are increasing the resistance. With increased resistance, you need a larger blower or larger ducts. If you increase the blower too much or increase the blower speed too far you can raise noise problems.

(Gonzales) One thing to remember when installing a cooling coil in an existing furnace is to place it so that it doesn't block off the free air from the furnace.

Even if you are able to use the same ductwork, you still have to increase the motor size and fan speed to compensate for the added resistance of the coil.

As a rule of thumb, if the furnace has a ¼-hp. fan designed for 1,000 c.f.m., you can't install more than a 3-hp. air conditioning unit. If the furnace has a ⅓-hp. fan designed for 1,750 c.f.m., you can't install more than a 5-hp. unit. In each case, you will have to increase the motor size and speed up the blower.

(Swain) It is well to remember that for residential air conditioning, you must get an air delivery to the conditioned space of about 400 c.f.m. per ton. For cooling, you can't restrict air delivery as you can on heating and get away with it.

Q. What about the location of baseboard diffusers when the customer has a big picture window covered by drapes?

A. (Waalkes) In a case like this, it is better to use floor diffusers. While we have found no adverse effect from drapes covering baseboard diffusers on the heating cycle, they do effectively disturb the cooling cycle.

Floor diffusers located about a foot out from the wall are least susceptible to being shut off by drapes, but you have to warn the housewife to keep her furniture off of them.

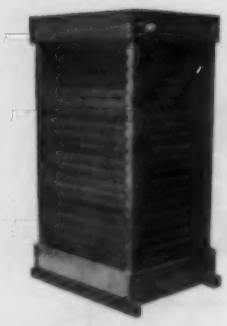
(Swain) I realize that you have a sales problem in selling floor diffusers, but the floor diffuser offers distinct advantages over the baseboard dif-

(Concluded on next page)

looking for ECONOMY
with PERFORMANCE with RELIABILITY?

then just look for SPRATOWERS*

Your search for maximum cooling efficiency at basic cost begins and ends with SpraTowers. Only these Marley natural draft cooling towers give you and your customers premium performance at a popular price.



The principal reason for SpraTower performance superiority is the unique spray system that achieves maximum water break-up and air-water contact. This spray system is the culmination of years of research by the world's largest staff of cooling tower experts. It is a perfectly balanced system—and more important, a *scientifically tested* system that takes the guesswork out of performance. Easy maintenance and long life are assured by the patented non-clog nozzles of Marley's own design and by California redwood structural members.

SpraTowers are readily available in 10 air conditioning and refrigeration sizes from distributors in more than 300 towns. Your local distributor will welcome the opportunity to prove beyond question that *there are many spray towers . . . but only* ONE *SpraTower.*

*Trademark Reg.

"Nothing cools as well as water . . . nothing cools water as well as a Marley Cooling Tower"

MARLEY

The Marley Company
Kansas City, Missouri

For more information about products advertised on this page use Information Center, page 26.

Expert Advice--

(Concluded from preceding page)

fuser in this type of installation. You can play up these advantages and by making the floor diffusers completely inconspicuous overcome the customer's objections to them.

Of course, it is not necessary to place the baseboard diffuser directly under the picture window. It may be possible to place a diffuser on each side of the window, allowing the air spray pattern of the diffuser to cover the window area effectively.

(Gonzales) If you can't sell floor diffusers, put in ceiling diffusers. You can do the window screening job from above just as well as from below the window.

Q. What are some of the most common pitfalls for the new air conditioning contractor? What should he watch out for particularly?

A. (Gonzales) The new contractor should get the manufacturer's representative to help him on his initial jobs and point the way for him. Manufacturer's representatives and distributors are anxious to do this. Above all, follow the manufacturer's instructions on installing his unit. He writes these instructions from wide and varied experience in the field. They are worth your attention.

(Swain) The biggest complaint that we hear results from unvented clothes driers. A clothes drier can put more moisture in a house than an air conditioning unit can possibly take out.

Another warning. Never put an air-cooled condenser section in the basement and draw basement air over it. I repeat—Never!

The reason is that the fan will pull a vacuum on the basement. This will draw a back draft down the chimney, reverse the operation of the incinerator, and affect the operation of all gas appliances. When there is an incinerator in the basement, you will have the biggest smudge pot down there you ever saw!

Q. Is it necessary to bring in fresh air on a residential system?

A. (Swain) The main purpose of bringing in fresh air in a home is to revitalize the air in the house. Odors are more noticeable in summer than in winter and fresh air will help remove them.

(From the floor) With modern homes equipped with kitchen exhaust fans, dryers, and other such appliances, the introduction of fresh air is a must. The biggest complaint we get is that we are not getting enough air into the home.

(Feinberg) If you do bring in fresh air, however, make sure that the fresh air fan or damper is shut off when the compressor shuts off. If you don't the warm, moist outside air will cause condensation on the coil and add unwanted humidity to the conditioned air.

Q. Which is best, constant blower operation or intermittent blower operation?

A. (Gonzales) We have always recommended constant blower operation. With the type of coil we (Airtemp) are using, we have never had any trouble with humidity.

However, with the slower draining coil, it is better to shut off the fan when you stop the compressor.

With most coils, constant blower operation has proved most satisfactory to the homeowner. But I would not argue with the man who wants an intermittent blower.

Remember, that the purpose of summer air conditioning is to satisfy the customer. If he is satisfied, you have a successful job. If he is not satisfied, you are in trouble.

My thinking on this matter of capacity needed to cool a house is the same as for sizing a hot water heater. It should be big enough to keep the owner satisfied.

If I were sizing a job, I would first find out what the living habits of the customer are, what are his desires, and then size the system accordingly. A man who wants his house to get cool fast and demands his cooling when he wants it would get a larger capacity system than a man who didn't care about temperature and dry bulb just so long as he was comfortable.

Q. We have been hearing a lot about this Austin Village experiment. Hasn't there been too much emphasis placed on the findings gained there? It doesn't seem to me that the same conditions that exist in Austin apply to large sections of the country.

A. (Gonzales) To me the main value of the Austin Village project was not the information about the operation of the equipment, but in the findings on the psychology of the people who lived in the houses.

The reactions of these people to air conditioning, their adjustments to it, and the benefits they receive from it will apply all over the country. It is this information that has the real value and should not be ignored.

FOR NEARLY THREE HOURS, three "experts" on residential air conditioning answered questions tossed to them by heating and sheet metal contractors attending the annual convention of the Michigan Heating and Sheet Metal Association. From left to right, they are Eston Swain, application engineer for the C. A. Olsen Co.; Robert J. Waalkes, Hart & Cooley Mfg. Co.; Edwin A. Scott, Jr., editor and publisher of *Heating and Air Conditioning Contractor*, panel moderator; and Ralph Gonzales, director of application engineering for Airtemp.

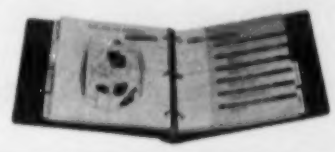
Cooling Firm Chartered In Huntington, W. Va.

HUNTINGTON, W. Va.—Air Central, Inc. here, a new air conditioning firm, has been granted a charter by the Secretary of State. Authorized capital stock is $5,000. L. E. Woods, Jr., C. F. Bagley, and R. K. Emerson, all of Huntington, were listed as the incorporators.

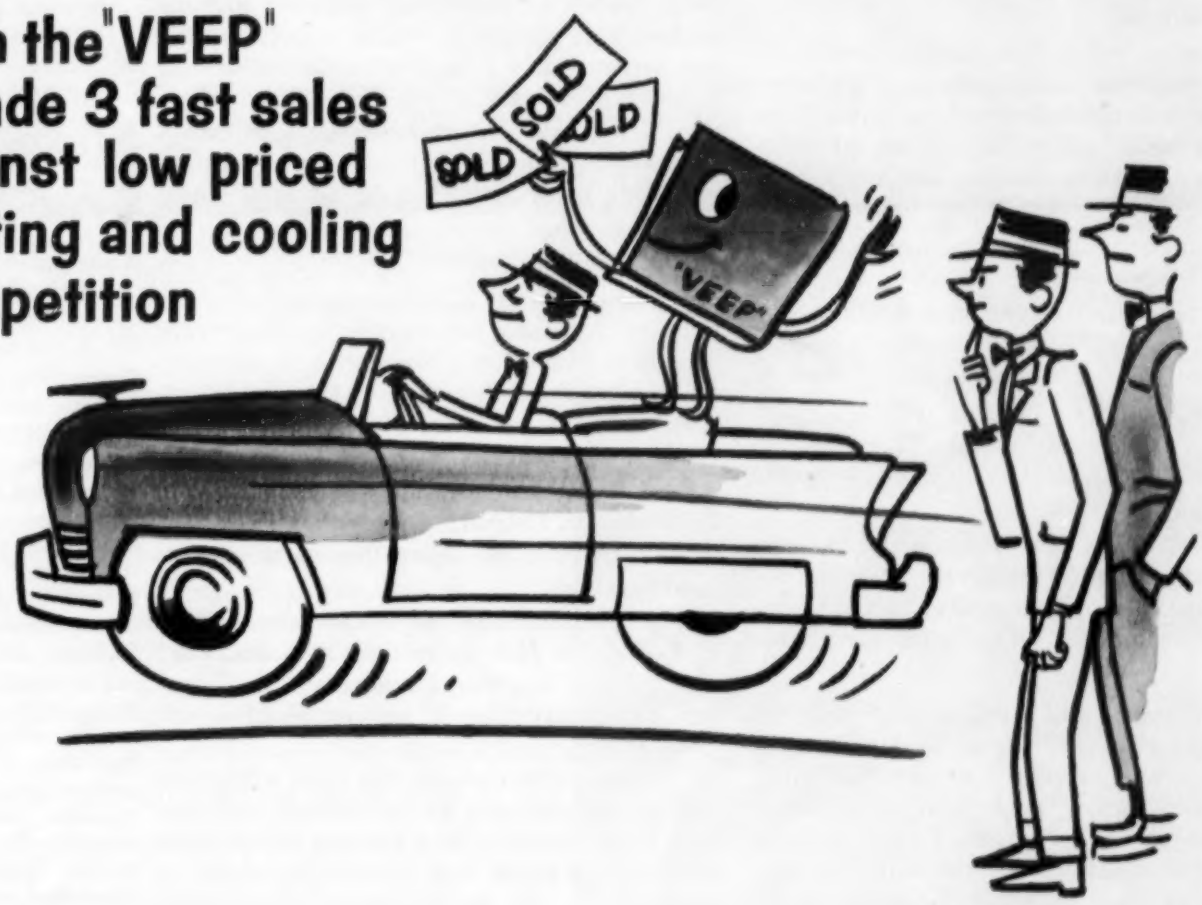
Report #5

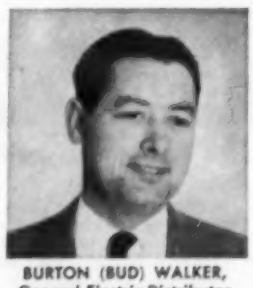
THE G-E "VEEP" IN ACTION

How new G-E "Magic Sales-Maker"--a consumer visual sales presentation, popularly called "The Veep"--helps increase sales for G-E Home Heating and Cooling Dealers



With the "VEEP" I made 3 fast sales against low priced heating and cooling competition





BURTON (BUD) WALKER, General Electric Distributor South Bend, Ind.

For **Burton (Bud) Walker,** HH&C distributor in South Bend, Ind., the "Veep" arrived just in time... Bud apparently had "struck out" three times in a row. In each instance he had just about lost his prospect to lower-priced competition. Then he made one more try apiece — this time armed with the "Veep."

The results were astounding. In two instances, Bud immediately turned lost sales into orders for heating and cooling units. Third prospect required three additional calls but, again, use of the "Veep" clinched the order — against lower-priced competition — a very important point.

Bud is convinced now it is easy to sell against cheaper products, if you make sure to *sell* all the pluses you have. This the new G-E "Veep" virtually guarantees. Watch for more true sales stories like this one — in future G-E advertisements in this publication. They all teach the same lesson:—the profit-wise home heating and cooling dealer is the one who has climbed on the G-E Bandwagon. Want to join up?

FREE! Sales Secrets That You Can Use. Exciting success stories by G-E salesmen tell how they broke sales records with the aid of the "Veep." For your copy write GENERAL ELECTRIC, HOME HEATING AND COOLING DEPT. AC-46 BLOOMFIELD, N. J.

Progress Is Our Most Important Product

GENERAL ELECTRIC

Home Heating and Cooling Dept., Bloomfield, N. J.

For more information about products advertised on this page use Information Center, page 26.

They'll Do It Every Time

by Jimmy Hatlo

WHEN HENRY'S UNCLE QRULLER GOT THE TEN-YEAR ALCATRAZ LEASE, HE WAS ABSOLUTELY NO RELATION WHATSOEVER...
HEY! HENRY! IS THIS TREMBLECHIN THEY PUT IN THE SNEEZER A RELATIVE OF YOURS?
NEVER HEARD OF HIM! HE'S PROBABLY USING OUR GOOD NAME AS AN ALIAS! IN THE WHOLE FAMILY TREE THERE'S NEVER BEEN A CROOKED BRANCH—OR A "Q" EITHER...
Q. TREMBLECHIN GETS 10 YEARS FOR TAX EVASION
BUT WHEN HIS 32ND COUSIN XERXES (BY ADOPTION) MADE GOOD—YIKES! HOW THE SAP ON THE FAMILY TREE CONGEALED...
YES-SIR! HE'S MY FIRST COUSIN! AUNT MAMIE'S BOY! WE WERE RAISED TOGETHER! LITTLE X-IE! I REMEMBER I HANDLED HIS VERY FIRST ELECTION—PRESIDENT OF THE STUDENT COUNCIL! DON'T BE SURPRISED IF I'M SUMMONED TO WASHINGTON....
OH! MY ACHING EARDRUMS! PUT A NEW ROLL ON THE PIANOLA!
PRESIDENT NAMES X. TREMBLECHIN SECRETARY OF VENTILATION
THANKS AND A TIP OF THE HATLO HAT TO MIGUEL A. GALLEGOS, 2471-8TH AVE., SAN FRANCISCO 16, CALIF.

Candid Appraisal of Tough Obstacles In the Path of Home Air Conditioning

Great excitement about the future of residential air conditioning has pervaded our industry in recent months.

Manufacturers of refrigeration products and heating equipment are jumping onto the tailgate of that air conditioning bandwagon so fast that it is said some stockholders of such corporations are becoming uneasy.

Likewise, not a few contractor-dealers are a bit cautious. Judging by their plaintive letters to manufacturers whose franchises they hold for other products, some prospective air conditioning retailers actually FEAR the new role they are being pressured to take.

Why? Because:

(1) In small towns and medium-size cities too many air conditioning *entrepreneurs* have given up or even gone broke in the past.

(2) Adding a residential heating-cooling line is relatively expensive in terms of inventory investment.

(3) To do a decent job in the residential air conditioning category a local contractor must possess already-expert installation and servicemen. The latter are extra-scarce.

Abovementioned worries may help explain why General Electric, General Motors, Westinghouse, Chrysler, Carrier, Worthington, Trane, Servel, York, and other financially-solvent corporations are seeking imaginative solutions to the national distribution problem involved in residential air conditioning. This, despite the fact that these mighty corporations have a big head start in this high-stakes game.

You see, attempting to pioneer this relatively new product through established dealer-contractors, whose experience has been in other fields, hasn't been uniformly successful.

Another disappointment:

Year-round air conditioning hasn't captured speculative builder's construction money so quickly as many pundits have predicted it would. Only a few publicity-wise huge project builders are air conditioning any substantial quantity of their new homes.

Summer cooling, it appears, is something which an individual buys for himself rather than an extra which somebody else can pressure him to add when he makes the biggest purchase of his life (his home).

New York and Philadelphia real estate operators report that speculative builders are adding air conditioning to spur sales of their mass home developments on a 10% per project scale.

Pioneering air conditioning installations built into for-sale houses are reported from Cincinnati, Cleveland, New Orleans, Chicago, St. Louis, and Milwaukee—also on a 10% scale. (That is, of every 100 new homes in a "project" a tentative 10 are cooled.)

Remaining cool toward cooling are Indianapolis, Detroit, Grand Rapids, Columbus, and loads of other lukewarm metropolitan areas.

Air conditioning of homes—as a Pride of Possession fad—is gaining in Tulsa, Fort Worth, Los Angeles, Pasadena, San Diego, and almost any place in Arizona and Florida, it is true.

Even so, manufacturers have a Big Job To Do in convincing midwesterners and seaboard refrigeration and heating contractors that there's profit and advertising value in jumping aboard the home air conditioning bandwagon.

Residential air conditioning obviously isn't going to Heaven in a handbasket this season.

It will take a lot of hard work by manufacturers, and a multiplication of previous promotion to prospective dealers, before the wonderful future of home air conditioning can be realized.

No doubt many of us hope for too much, too quickly, William Henry Chamberlin quotes the late James Forrestal as saying:

"There is no finality to the stream of history—no black or white decisions. The stream of history is always flowing, and problems between nations never end. The American tendency is to try to get finality and quick decisions of age-long problems."

Nothing can be more hurtful to creative thinking than the dogmatic assumption that statistics are the final answer to everything.—WALTER O'MEARA, *Advertising Age*.

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AIR CONDITIONING & REFRIGERATION NEWS

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'The Conscience of the Industry'

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—*Charles A. Dana.*

American Society of Heating & Air-Conditioning Engineers
New York 13, N. Y.

Mr. L. N. Hunter
Senior Vice Pres. for Engineering and Research
National-U. S. Radiator Corp.
Johnstown, Pa.

(Carbon copy sent to the NEWS)

I appreciated receiving your letter with comments relative to the recent editorial which appeared in AIR CONDITIONING & REFRIGERATION NEWS, relative to Physiological Research.

I sincerely hope that the 1956 plans of the Committee on Research will take definite strides this year to consolidate our Society position on this important research. Before too long, I am hopeful that we can present a unified program of research, concerned with the health and productivity of individuals that will be of interest and merit the support of the industry.

Many seem to be concerned with the problem and I am confident the Society can take the leadership in providing the medium, whereby some of the desired results can be obtained.

JOHN W. JAMES

Joe's Electric Motor Shop
Tamaqua, Pa.

Editor:

We have been subscribing to and reading AC&RN for several years, and find that it takes that much time to fully appreciate the greatness of this paper.

We would like to have published in our local newspaper some articles of the NEWS, on survey results, etc., and especially the philosophy of the week verbatim.

JOE YASEWCHAK

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To See the Industry In Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on commercial and residential air conditioning, commercial and home refrigeration: manufacturing, contracting, distributing, retailing, and servicing. Read the Industry's newspaper for profit every week. Only $6.00 per year, 52 issues.

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Gentlemen: Send the NEWS every week for one year. ☐ $6.00 enclosed ☐ Bill me ☐ Bill Company.

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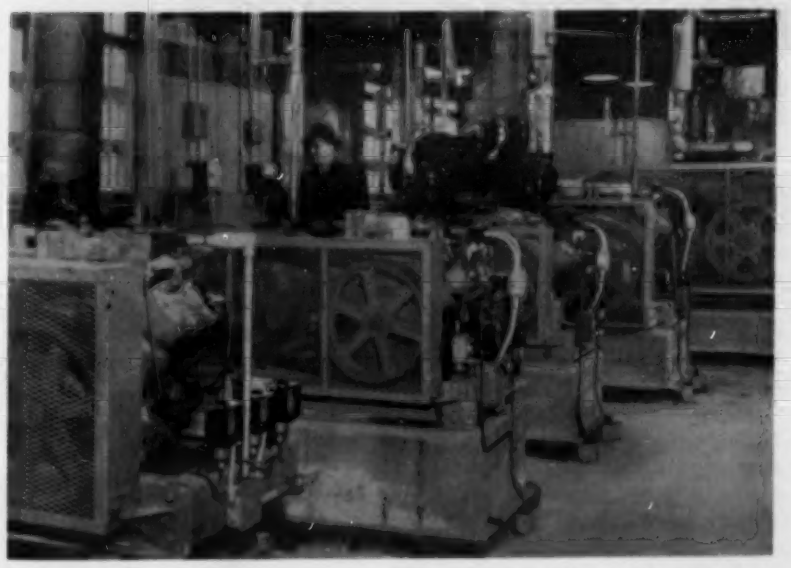
2 Compressors Hold Hospital's 5 Freezer Rooms at 10,-20°; Time Switches Control 2 to 55 Min. Defrost Cycle In Units

NEW YORK CITY—Final installations have been completed by the Louis Feld Co., refrigeration engineer and contractor, on the vast kitchen and storehouse that will serve the new Manhattan State hospital, still under construction on Ward's Island in New York's East river.

Feld, president of the contracting firm, stated that the three-story building has five low temperature rooms, to be maintained at temperatures of 10° F. and -20° F., and 25 walk-in refrigerators.

A unique feature is that two compressors, (a 30 hp. and a 20 hp.), serve to control all five of the freezer rooms. Feld states that he believes this to be the largest installation of that type.

CLOSE VIEW of Tork "Switchmaster" units seen in relation to compressors for freezer rooms in basement of storehouse in Manhattan State hospital on Ward's Island in the East River. Units are installed directly into the line and turn compressors on and off at the required time set every day. A combination dial allows for operation in periods ranging from two to 55 minutes any time of any day.



GENERAL VIEW of compressor room in basement of storehouse. At right rear is 75-hp. unit which controls the brine system for 25 walk-in refrigerators. Shown at center are the 20 and 30-hp. compressors for the five freezer rooms. Time switches are ranged along the wall in relation to units they control. In foreground are compressors for ice cream machine and flaked ice machine.

Defrost Automatically Controlled on Each Unit

The defrost operation will be automatically controlled, on each compressor by a Tork "Switchmaster" time switch. Defrost cycles ranging from 2 to 55 minutes and accurate to any one minute period adjustment are possible at any or all hours of the day, with this combination unit, Feld said.

Since the defrost needs for the freezer rooms may vary from time to time, depending upon the volume stored, the Switchmaster makes it possible for building personnel to change automatic defrost schedules quickly, he added.

An adjustable tripper on the minute dial governs the exact length of the defrost operation. This can occur at any or all hours of the day, as selected on the 24-hour dial.

A manual switch on the Tork Switchmaster makes it possible to Start or Stop defrosting at other times without altering the master schedule.

Defrost Schedules Need Not Be the Same for Each

Since each of the compressors is controlled by a separate Switchmaster, the schedules for all five rooms need not be the same. Individual compressors are timed according to their specific needs, Feld explained.

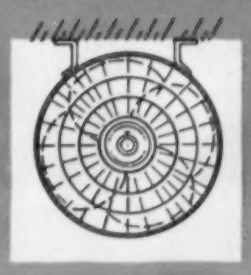
In all, six compressors are in use for the 320 by 80-ft. building. In addition to the two for the freezer rooms, there are units controlling an ice cream machine, a flake ice machine, and two 75-hp. compressors for the brine system used for the 25 walk-in refrigerator rooms.

Although all refrigeration equipment and compressors have been installed and tested, Feld reports that actual operation is not expected to begin until the summer of 1956, at which time the hospital will be completed.

Anyway you look at it . . .

PEERLESS POWER-PACK IS THE BEST BUY

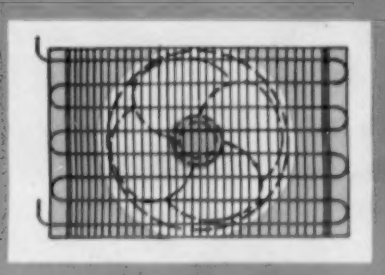
HERE IS EFFICIENT DESIGN



FAN MOTOR IS SHOWN MOUNTED IN HEART OR CENTER OF DRUMHEAD COIL

The Peerless Drumhead coil is a continuous finned tube without soldered return bends. 100% of evaporative surface is in the air stream. Motor is located in center of coil. This design gives highest B.T.U. transfer rate per foot of finned coil surface in the smallest possible space.

HERE IS WASTE



Red area shows how return bends and finned areas are out of circular air stream. Dead area opposite motor is also in red. Tests show B.T.U. loss ranges from 10% to 25% with this design as compared to Drumhead design.

Size for size the Peerless Power-Pack Unit Cooler is the most efficient on the market. Because of its round Drumhead coil design all primary and secondary evaporative surfaces are directly in the fan air stream. Cooling capacity is not wasted. Savings, possible in manufacturing, are passed on to you in terms of *lower cost*.

More Net Useable Storage Space In Any Fixture

In reach-in boxes, back bars, display cases, vending machines and all types of mechanically cooled fixtures the compactness of Power-Pack Units provide more useable storage space. With more than 1,000,000 of these coils in use today you can be sure of customer satisfaction with the Power-Pack.

Write for literature and prices.

SINGLE POWER-PACK available with decorative shield and drip pan as shown or with standard circular casing and fan guard. Capacity: 85 to 135 BTU/HR/1° T.D.

Can be mounted in any position

TWIN POWER-PACK has drumhead coils at either end. Available also as stripped model without casing. Capacity: 150 to 300 BTU/HR/1°T.D.

Buy Peerless and save the difference

PEERLESS OF AMERICA, INC.

MANUFACTURERS OF REFRIGERATION AND AIR CONDITIONING COILS SINCE 1912

DEPT. N, 5830 NORTH PULASKI ROAD, CHICAGO 30, ILLINOIS, U. S. A.

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THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.

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Industrial Service Group To Discuss Motor Repair Methods, Costs May 13-16

ST. LOUIS—"How To Wind It, How To Cost It, and How To Sell It"—referring to the repair of motors and other electrical equipment—will be the theme of the National Industrial Service Association's 23rd annual convention to be held May 13-16 in Philadelphia.

More than 1,000 members of NISA, the trade association representing electric motor, generator, and transformer service and sales shops in the United States and Canada, are expected to attend the four-day meeting at the Bellevue-Stratford hotel.

The program includes six technical papers, two during each of the morning sessions Monday through Wednesday, May 14-16. Subjects are: interspersed windings, coil winding, winding formulas, fractional horsepower motors, cost factors, and motor marketing.

Forums To Be Held Each Afternoon

Speakers will meet the members each afternoon in forums which will be held on the subjects of winding, selling, costing, fractional horsepower motors, and transformers.

The convention's keynote address will be delivered by Howard F. McCullough, general manager, service shop department, General Electric Co., New York.

Other speakers at the opening sessions, Monday morning, May 14, are: Edward Green of G. E. Jones Electric Co., Amarillo, Texas, who will speak on interspersed windings; and Arthur Phares of Southwest Electric Co., Oklahoma City, whose topic will be coil winding. The chairman for the Monday session will be William H. Braunlich of Braunlich-Roessle Co., Pittsburgh.

The Tuesday morning session will feature a talk on successful wage incentive plans by J. F. Lincoln, president and chairman of the board of the Lincoln Electric Co., Cleveland.

Also on the Tuesday morning schedule is a three-part presentation entitled "How To Add Horsepower to Motor and Service Sales," a plan for marketing programs at the association and local levels, by George D. Richardson, president; Gordon Thomas, vice president; and John J. Mentzer, account executive, of the Philadelphia advertising agency, Richardson, Thomas & Bushman, Inc.

After the presentation, Michael E. Assalone of Florida Electric Motor Co., Miami, will present a paper on "Fractional Horsepower Motor Repairing." Presiding at the Tuesday session will be Paul M. Sievert, NISA national secretary, of Sievert Electric Co., Chicago.

On Wednesday morning, Thomas M. Russell of Russell Electric Co., Mobile, Ala., will preside. Speakers will include Howard A. Lilly, Tampa Armature Works, Inc., Tampa, Fla., who will speak on "Cost Factors in Motor Repairing."

The second speaker on the day's program, A. G. Bamford of Sutherland-Schultz Electric Co., Ltd., Kitchener, Ont., will discuss motor shop management.

Ralph O. Kufen of Kufen Electric Motors & Engineering Service, Hatboro, Pa., will give a paper entitled "Practical Winding Formula for Repairman."

Forums will be held each afternoon. On Monday, Harold Chase of Giles Armature & Electric Works, Marion, Ill., will lead a forum on "How To Wind It."

Lewis S. Bain of Jack's Electric Motor Service, Fort Lauderdale, Fla., will moderate the "How To Sell It" forum. A third forum, "How To Cost It," will be led by Selden F. High of Sullivan Electric Co., Cincinnati.

Tuesday's forums include one on winding, led by Ross Sawle of Blenkhorn & Sawle, Ltd., St. Catherines, Ont., Can.; another on selling with Warren Mielke of Mielke Electric Works, Inc., Duluth, Minn., as moderator; and a third on fractional horsepower motors, led by Earl S. Brooks of United Electric Motors, Seattle.

Forums for Wednesday will include a winding session with Carl Lundberg, Cascade Machinery Co., Seattle, moderator; a selling forum led by John M. Gillen of O'Brien Machinery Co., Philadelphia; a fractional horsepower motor session with Alex A. Shovan of Industrial Electric Service Co., Hawthorne, N. J., moderator; and a transformer forum conducted by George Larsen, Larsen-Hogue Electric Co., Los Angeles.

Ansul Names Bopp New Products Mgr.

MARINETTE, Wis. — Ansul Chemical Co. announces the appointment of John Bopp as manager of its New Products Div., Refrigeration Sales Development Dept.

He succeeds as manager Lou Wallace, who recently resigned to join Russell Sales Co., Ansul's refrigeration distributor on the West Coast. Bopp has been with Ansul 16 years.

Boston Anheuser-Busch Cabinet Distributor Adds Warehouse Space

BOSTON — Arrangements to warehouse Anheuser-Busch low temperature refrigerated cabinets in the George E. Dewey warehouse in Hartford, Conn. to provide better service to the Connecticut area was made by F. W. Smith Co., Inc. here, the distributor for the Refrigerated Cabinet Div. of Anheuser-Busch, Inc.

Hussmann Distributor To Occupy Larger Quarters

NASHVILLE, Tenn.—Horrell Refrigeration, Inc., which distributes Hussmann commercial refrigeration equipment in 51 counties, has announced plans to move into a new and larger plant in the Sidco subdivision.

Construction on the brick, steel, and concrete building, to be located at the southwest corner of Thompson Lane and Sidco Dr., is expected to get under way in May.

J. S. Couzens Promoted To H&H Sales Manager

DETROIT — C. H. Higgins, president and chairman of the board of H & H Tube & Mfg. Co., Detroit, has announced the appointment of J. S. Couzens as sales manager. Couzens' association with H & H Tube has been long. Joining the firm in 1947 in the pricing department, he was later made a salesman and in 1953 assistant sales manager and advertising manager.

New York League Helps Farmers Finance Refrigerated Bulk Milk Cooling Tanks

BUFFALO — Around $5,000,000 in milk check deduction loans by Marine Trust Co. of Western New York to qualifying Dairymen's League producers supplying Buffalo and this end of the state may be involved in a master plan of the league for financing the installation of refrigerated milk storage and cooling tanks on the farms of its members.

William J. Walsh, Buffalo division representative for the Dairymen's League Co-operative Assn., Inc., confirmed that arrangements had been made with the local banking system by league officials in New York City.

He said the financing plan is available to all of the league's 26,000 members in its four-state territory, and that total loans may amount to between 15 and 20 million dollars.

Under the plan, the qualifying league member sends the bill for his new tank and auxiliary equipment, together with his note, to the league, which discounts it with the trust company and then makes monthly deductions from the member's milk check to cover interest and principal payments to the bank.

The notes will run from 12 to 60 months. To qualify for this instalment credit, the member's milk output must be sufficient in quantity to warrant the installation and his farm must be accessible to one of the league's bulk tank pickup routes.

Walsh emphasized that the new financing plan is voluntary on part of league members and that the league encourages members to do their own financing if they prefer.

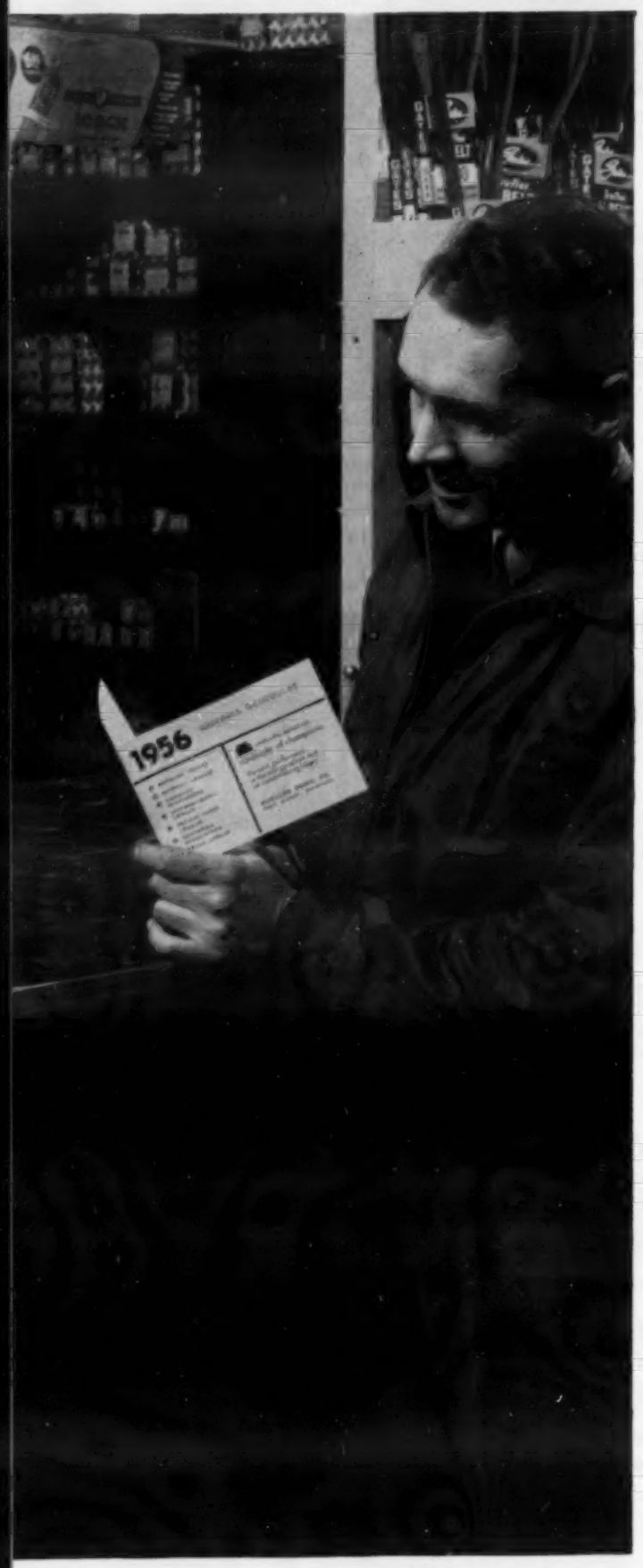
There are approximately 6,500 league members in the western end of the state, and an increasing number of them will be eligible for the loans as the league continues to add bulk tank truck routes.

The Dairymen's League four years ago was the first milk cooperative in this section to institute bulk delivery. It began with one tank pickup route. Now there are 14 such pickup routes.

The league's local division office estimates that 15% of its milk deliveries to Buffalo and other points in the Niagara Frontier are now made by bulk tank trucks.

Already 170 league members supplying milk to Buffalo and marketing area plants have installed the necessary cooling and storage equipment for bulk tank delivery. The Erie County Health Department reports more than 300 such installations in use on Buffalo milkshed farms.

The cooling and storage equipment includes refrigerated stainless steel tanks in milk houses at dairy farms, which cool the milk immediately as it is taken from the cows and hold it at a low temperature until it is pumped from the storage tanks into the tank delivery trucks.



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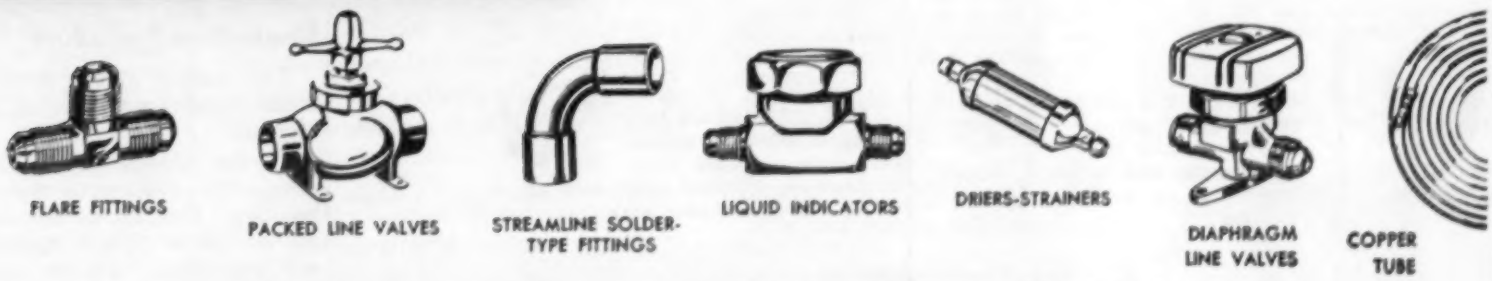

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High Velocity Air Distribution (2)

Need Seen for Minimum Satisfactory Design Criteria; Tips Given on Testing Single or Double-Duct Systems

This is the second and final instalment of a report covering the High Velocity Symposium held at the 62nd annual meeting of the American Society of Heating & Air-Conditioning Engineers. This instalment discusses design specification and testing and balancing single and double duct systems.

By C. Dale Mericle

"A reference was made to rigid specifications of designing engineers," K. A. J. Monier, a contractor with considerable experience who appeared on the panel, continued.

"It can be readily appreciated why this resultant and extremely variable condition exists. It is comparable to the final proposal figure of a contractor when either insufficient time or clarity exists in the preparation of a bid. The tendency is to 'play it safe' and the resultant bid is not studied and thorough.

"The engineer is faced with a variety of recommendations by various manufacturers and proponents of various systems. He is told by one manufacturer for example, that all take-offs must be on a lateral of a given degree from the line of flow with reductions made to a given schedule of minimum lengths in the run, while a competitive manufacturer, for even higher pressures, allows take-offs welded in square to the line of run.

"Some systems recommend all weld construction with clamped joints between ducts and flexible connections; others recommend sealant and tapes for the same connection. Some manufacturers advise installation of dampers in round high pressure runs while others advise against it.

"The types of flexible tubing, gauges of metals, restrictions on use of flexible in elbows, construction of elbows, use of metal screws, types of sound absorbers, isolation of hangers, recommended in a number of ways by manufacturers, create a doubt in the mind of the engineer that might be against his judgment.

"As a result, from recommendations made off-hand without regard to economy, plus the added safety factor of the engineer, the contractor is handed a specification of most rigid requirements and resultant higher costs to the owner," Monier said.

"What then can be the result of recommendation from the above discussion? It is believed that some coordinated effort on the part of the society could be effected through all phases of the industry; manufacturer, engineer, and contractor to assimilate the most valuable information accumulated through actual experiences.

"From these, surely a minimum satisfactory design criteria could be effected and the information disseminated through the membership. Practical specifications on all methods and procedures as well as materials could be offered without the application of safety measures in the chain of command, and there would not be the extreme variations of requirements by different engineers for the same types of installations," he said.

Field Testing, Balancnig High Velocity Systems

Field testing and balancing of high velocity systems of both single and double-duct design was the last topic of the symposium, being discussed by Wm. L. Batchelor of Tuttle & Bailey, Inc., who advised that sections of ductwork should be tested when completed with the following equipment:

Pressure blower, measuring orifice, manometer, discharge ducts and connectors, blank-off sheets.

"Normally 6-in. water pressure is sufficient to test the tightness of ducts," Batchelor said.

"Starting with the run-outs and branches, cap off the run-outs at the point of connection to each unit. Apply the connection from the blower. Start blower and inflate the portion of duct under test to the shut-off head of the blower, which should be at least 6 in. water. Note the pressure drop across the orifice. The drop should not exceed 1 in. water," Batchelor declared.

"Any obvious leaks will show up immediately, both by sound and by the fact that the orifice drop will exceed 1 in. water. These should be remedied before proceeding with the test.

"Next, sub-trunks or trunks should be attached to the previously tested run out branches and tested with the blower again. This procedure should be followed completely back to the fan. Obviously, this routine becomes more important as the static pressures in the system become higher and less important as the systemic static pressure is lower, but wherever the risers, branches, and run out are to be furred into masonry walls or ceilings, it is imperative.

"Such testing makes it mandatory that sealing compounds, flexible connections, and damper ferrules are air tight," Batchelor pointed out.

Testing, Balancing Air Flow

"After the system is pressure tested and all ductwork connected, testing and balancing of air flow can be done. Instrumentation should include:

"1. Power analyzer for testing power impact to the fan motor.

"2. Pitot tube and manometer for testing main fan air flow.

"3. Velometer or Flow-rite meter for determining air flow from diffusers and grilles."

Single-Duct Procedure

For testing single duct systems, Batchelor suggested these steps:

"1. Set all branch line dampers in the system to the open position. Position of the dampers should be clearly marked on all quadrants. Return air or outside air dampers locked in design position.

"2. Check fan rotation and fan speed against design. After correct setting, take power

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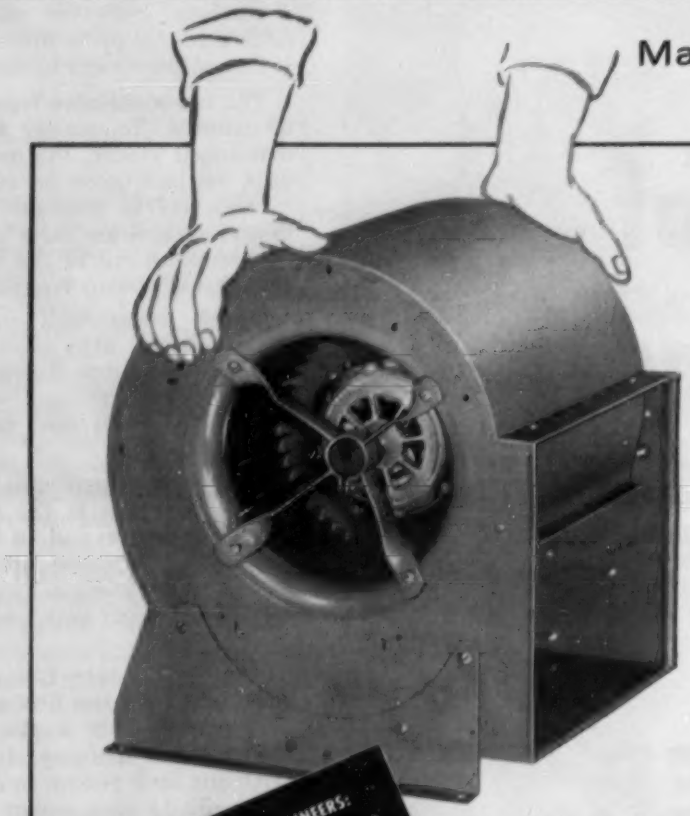

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High Velocity Systems--

(Concluded from preceding page)

analysis of the fan. Take a discharge fan static reading and also suction static pressure readings. . . . Where conditions will permit, a fan discharge volume traverse may be taken by pitot tube measurement. Often this cannot be done due to construction conditions.

"3. After the fan volume has been established at ±5% of design, the usual procedure is to use the unit manufacturer's calibration charts to determine the unit output. On floors closest to the fan, unit dampers should then be closed off until the correct volume is delivered per unit.

"On floors where due to inherent systemic unbalance the static pressure at the inlet to units exceeds the manufacturer's maximum pressure ratings, branch line dampers should be used to reduce this excessive pressure, and to divert air to the longest equivalent run. The same procedure is followed until all floors have been roughly balanced.

"It is usually necessary to go back over the system to finally balance the system. Pitot tube traverses in branch ducts to each floor are of value, but arrangement of ductwork rarely make this possible. Most unit manufacturers provide a location on their units where calibration measurements may be taken to determine volume," Batchelor said.

"Where ceiling diffusers or grilles are used on a single duct interior system, usual methods of determining flow from regular low pressure equipment can be used. A velometer reading coupled with the manufacturer's effective area figures for the diffusers and outlets will determine volume flow.

"4. On air and water type units it is further necessary to calibrate the three-way water mixing valve and return air thermostat to provide the necessary water flow for the sensible cooling coil.

Problems Involved With Double-Duct System

"Several different problems are involved in balancing a double-duct system that are not usually met in single duct systems. For one thing, there are actually two separate systems to balance. In balancing such systems, assume both the hot and cold ducts are sized equally," Batchelor advised.

The steps are:

"1. Set all unit thermostats so that the pneumatically controlled unit dampers are arranged so that they are often to the cold duct side of the system. All branch line dampers should be opened. Return and/or outside air dampers should be locked in the design position.

"2. Determine the fan volume by power analysis and static pressure readings, as in single duct systems. Set fan speed to produce the design volume.

"3. After fan volume is established at ±5% of design flow, determine the unit volume flow from floors nearest the fan. Inlet static pressures to units should not exceed the manufacturer's maximum ratings. On floors where they do, branch line balancing dampers should be closed off enough to bring the inlet pressure below the maximum allowable. Double duct units usually have an adjusting mechanism to obtain correct flow at various inlet static pressures.

Take Unit Reading at Point of Calibration

"After determining that the static pressure is below maximum, take a unit reading at the point of calibration in the unit. If it is over-aired, turn the adjusting mechanism to reduce the damper opening until the design flow is obtained. If the unit is under-aired, adjust the damper opening so that it is increased until correct flow is obtained. Follow this procedure until all units have been so balanced.

"4. Set all unit controls so that all control dampers are open to the heating side and closed to the cooling side. Repeat the same procedure in balancing the branch line dampers, so that the branch line static pressures are about the same for the hot and cold ducts on each floor. Do not adjust the unit damper openings, because this will affect the balance of the coldside," cautioned Batchelor.

"5. Set the pressure controls operating the static pressure dampers on the hot and cold decks so that they maintain the static pressure existing at the control point in each duct when full volume is flowing in it.

"6. Check the total fan volume on the heating side and adjust the static pressure control on the fan so that the fan volume remains relatively constant.

"7. It is, of course, necessary to calibrate the temperature controls on the units as well as on the central station.

Checking Air Distribution Patterns

"After volume and static pressure balances have been made, it is usually desirable to select one room on the exterior zone and one on the interior system for checking air distribution patterns in the room. Equipment needed is:

"1. Low scale reading velometer 0-175 p.p.m. or a hot wire anemometer for reading residual air motion.

"2. Several 12-in. stick thermometers or a potentiometer and thermocouple group to measure temperature patterns in the room.

"3. Several one-half minute smoke bombs.

"General velocity pattern measurements should be made to establish flow characteristics of primary and secondary air streams. These should be plotted on a room profile chart.

"Similar temperature measurements should be made to determine the temperature gradients in the room and these should also be plotted.

"An inspection of such graphs together with smoke patterns will show what adjustments, if any, need be made to the air distribution devices to overcome probable drafts and temperature equalization," Batchelor said.

"It might be noted that in spite of what may appear from my remarks to be a rather lengthy and involved procedure, the actual balancing of a high pressure system for air flow moves more quickly than for a comparable low pressure system. Readings taken by instruments are much more accurate and adjustments made by system and unit dampers produce a more positive result than with low pressure systems."

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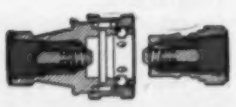

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Tool and Die Firm Cools Plant Just for Employes

Overhead Cranes Rule Out Central System; Canvas Protects Packaged Units When Idle

DEARBORN, Mich. — The head of a small tool and die firm here recently installed 50 tons of air conditioning in the shop area strictly for the comfort of his production workers.

Karl Faigle, president of the Faigle Tool & Die Co., a supplier to the automobile industry, believes that what's good for the goose is good for the gander.

If the "brass" and office help enjoy the cooling benefits of a 5-hp. Frigidaire packaged air conditioner, why should shop workers sweat in heat five 48-in. ceiling ventilating fans can't remove?

To remedy the situation, he called in Ed Beaver of B & T Refrigeration Co., local Frigidaire air conditioning dealer. Faigle was already acquainted with Beaver. Beaver had just successfully installed a 5-ton air conditioning unit with gravity dampers and cooling tower in his home.

Beaver, with the help of engineers from Frigidaire's Detroit branch, figured the job, bid for it, and won it.

Couldn't Use Central System

Right from the start it was obvious that the 224 by 70-ft. shop could not be cooled by a central system. Several overhead cranes operating in different areas left no room for extensive ductwork or large air conditioning equipment. Packaged units were the answer.

Faigle's plant is oriented east to west with the front of the building facing west. The offices, of course, are at the front of the building, cutting off the shop from a west exposure.

Beaver figured that the shop could be adequately cooled throughout by four strategically placed self-contained units.

He put a 10-hp. unit at the front wall of the shop to cover the northwest quadrant. This unit throws free air from a 7-ft. height toward the rear.

About 150 ft. to the rear on the north side, Beaver installed another 10-hp. unit. This unit throws free air toward the front of the shop and, through a short piece of duct, also cools an enclosed room immediately behind it.

CANVAS COVER drapes 10-hp. air conditioning unit in shop of Faigle Tool & Die Co. in Dearborn, Mich. Faigle had them made himself to protect finish of units when not in operation. Note heavy conduit for electrical lines in center.

On the south side of the plant, about 50 ft. from the front, Beaver placed a 15-hp. unit. This unit throws free air toward the front. A short duct cools an enclosed room to its rear. In addition, an overhead duct runs about 20 ft. toward the center of the shop and discharges air at 45° angles toward the front and rear.

About 175 ft. from the front, on the south side of the building, the fourth unit, also a 15-hp. model, is installed. It throws some free air toward the front. An overhead duct carries the remaining air through a wash room directly behind the unit to the rear of the building. Air is discharged toward the center. This duct also has an outlet in the wash room to cool that space.

No Fresh Air Used

No fresh air is used, Beaver noted. Only inside air is recirculated through the units. Beaver said he did not consider fresh air necessary on this job as the shop produced no smoke, heat, or odors to contaminate the air. Sufficient fresh air would be brought in through the doors which, of necessity, are opened and closed frequently.

The few lengths of duct used are not insulated, Beaver pointed out. He thinks that duct insulation is not necessary, except for noise control.

(Concluded on next page)

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HEAVY 15-hp. unit at right not only cools area in foreground, but through ducts supplies air to room behind it and to central area of plant to the left. The shop is being cooled strictly for employe comfort.

55-TON COOLING TOWER at rear of building is checked by Ed Beaver, who sold the Faigle job and made the installation. Beaver operates a one-man shop and sub-contracts installation work on jobs like this.

Plant Cooling--

(Concluded from preceding page)

"I've never had a duct sweat yet," he declared. "I believe that if you get enough air through a duct it will not sweat. When I see moisture gathering at a discharge grille, I know that there must be something wrong; dirty filters or some other reason for not getting enough air."

Each of the air conditioning units contain two complete refrigerating systems hooked up for two-stage operation. Each unit has its own thermostatic temperature control. The system is designed to bring inside temperature down to 75° F. when outside temperature is 95° F.

Blowers Maintain Comfortable Humidity

Blowers will operate continuously to maintain comfortable humidity levels, Beaver said.

While operation of the units are automatically controlled, each motor has its own disconnect switch. The system, however, can be manually started in the morning and shut off at night, if that is desired. Heavy pipe conduits are used throughout the electrical system.

All units are water cooled and connected to an Acme PT45 cooling tower of 55 tons capacity. The mechanical draft tower is located at the rear of the building. It sits on a concrete base at ground level and is provided with an open drain for bleed-off water.

A 7½-hp. pump connected to the tower circulates 180 g.p.m. of water or 3½ gals. per ton of refrigeration.

Though the system has not been started up yet this spring, Beaver said that he expects the tower, which has a 90-ft. head, to produce a 10° F. temperature drop. City water at about 75° F. entering temperature will be used.

Water controls are so arranged that the circulating pump will switch on whenever any of the compressors start up. The cooling tower blower, however, will be controlled by the temperature of the water entering the tower. Beaver said that he expects to set this so the blower will start operating when entering water reaches 95° to 100° F.

Beaver commented that Faigle, proud of his new units, has made handsome canvas, snap-on covers to protect the units when they are not in use.

Beaver, who has worked in refrigeration and air conditioning service and contracting for 16 years, won Frigidaire's merit service award last year.

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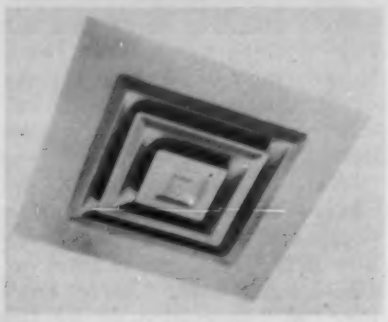

Connor Square Diffuser Emits, Returns Air

——KEY NO. F-430——

DANBURY, Conn.—Being offered by Connor Engineering Corp. is the "Kno-Draft" type KPSR square diffuser for use where air is to be both discharged and returned through a single unit.

The ceiling diffuser is geometrically proportional throughout all sizes, it was stated. At constant neck velocities the static pressure for any unit will not vary, assuring uniform diffusion patterns over a large area, the company said.

"Air is discharged between the outer and middle cones and return air is drawn through the center section which has a neck area equal to 75% of the supply," it was pointed out.

"Design prevents 'short circuiting' of the supply air into the return opening. All sizes may be obtained with patented Kno-Draft sleeve-type damper."

Blower-Type Coils Equip Refrigerated Stand

——KEY NO. F-431——

BROOKLYN—New model RES-41 refrigerated equipment stand equipped with a blower type refrigeration coil was announced here recently by Dunhill Soda Fountain Corp.

Two stainless steel refrigerated drawers are mounted on roller bearing slides on the front insulated panel. Automatic lights operate with door movement and

tinned wire shelves are removable for cleaning, according to the company.

Working height of the unit is 36 in., over-all height 72 in., depth 24 in., and length 58 in. Two inches of vegetable corkboard insulation is used throughout the 16-gauge zinc-coated steel stand, with exposed surfaces and capping made of 20-gauge stainless steel, it was stated.

Portable Dehumidifier Has Spiral Evaporator

——KEY NO. F-433——

ST. JOSEPH, Mich.—A new 'RCA Whirlpool" portable electric dehumidifier, which removes excess moisture effectively in rooms as large as 40 by 30 by 10 ft., was announced recently by the Whirlpool-Seeger Corp.

The unit removes as much as 3¼ gals. of moisture from the air in a 24-hour period, the manufacturer said.

High efficiency is achieved by the spiral design of the evaporator coil, which has the same diameter as the fan opening, the manufacturer explained. This permits air to flow over the entire coil. The straight-through horizontal pattern of air movement also contributes to performance.

Disposal of collected water is provided by a 9.42 qt. capacity rust and chip-proof removable container. A garden hose connection is provided for permanent drainage installation.

The dehumidifier operates on 115-volt current. An "on" and "off" switch is provided.

Ice Cube Maker Offers 5-Side Freezing

——KEY NO. F-434——

ERIE, Pa.—"Five side freezing" is a feature of a new automatic ice cube maker announced by Kold-Draft Div., Uniflow Mfg. Co.

The manufacturer claims the unit makes a "clear, solid, perfect cube."

The company also pointed out that the Kold-Draft design "has few moving parts, and these are easily accessible.

"The unit does not employ float valves, thermostats, or timers," it was explained. "Instead, a measured amount of water (by weight) is taken in at the start of each cycle using a patented control system.

"A new flow principle is employed which continuously washes the surface of ice cubes being frozen, and in the process, washes away all minerals, solids, and air. The unit rinses itself completely after each batch.

"When the bin is filled, the machine stops automatically; starts automatically when some ice is removed."

Two hundred pound and 400-lb. models are available.

10, 20, 40-Gal. Ice Cream Cabinets Offered

——KEY NO. F-432——

CHICAGO—The Bastian-Blessing Co. announces a new line of deluxe ice cream cabinets, designed for installation in customer view.

The new cabinets have stainless steel tops with stainless steel lids of the drip-proof type, and stainless steel back splashes.

The fronts, also stainless steel, have rounded edge to match other Bastian-Blessing fountain-food units. The ends are galvanealed steel. Compressors are remotely installed.

The new cabinets are available in 10, 20, and 40-gal. ice cream storage capacities.

Information Center

For *more information* on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

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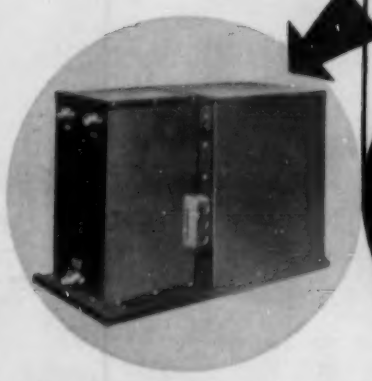

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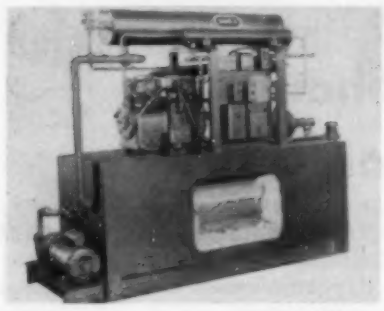


Heat-X Introduces 'PCS' Packaged Chiller

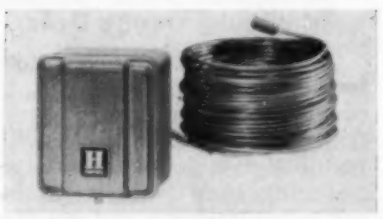
——KEY NO. F-435——

BREWSTER, N. Y. — Heat-X, Inc. has introduced a line of "PCS" package chillers with storage tanks for use wherever peak demand conditions occur in supplying drinking water and for a wide variety of industrial applications.

Chiller featuring patented "Inner-Fin" construction is coupled with an insulated stainless steel tank. Units are furnished complete—mounted, piped, ready to install.

"PCS" chillers feature all copper or brass water passages in chiller, condenser, and water piping, eliminating any possibility of rusty water, the manufacturer said.

Units are available in air-cooled models. Capacity controls can be supplied.



27-Ft. Sensing Element Feature of Thermostat

——KEY NO. F-436——

MINNEAPOLIS — A new electronic thermostat that features a 27-ft. temperature-sensing element has been introduced by Minneapolis-Honeywell Regulator Co. It is designed to solve the problem of temperature stratification in large air ducts.

The long temperature-sensing wire is enclosed in ⅛-in. copper tubing.

"This permits it to be easily arranged to 'feel' the average of stratified temperatures such as exist in large heating and air conditioning ducts in commercial buildings," the company said. "It can also be used to give average readings of concrete slab temperatures in radiant floor panel heating systems."

The instrument, designated L7022A, has an operating range from -30 to 225° F. It can be used with any standard Minneapolis-Honeywell electronic or electronic-pneumatic control system.

Sealant Adds Nozzle Tip Applicator

——KEY NO. F-437——

HOUSTON, Texas — Rectorseal No. 2, with nozzle tip applicator in a cylindrical screw top container that protects the collapsible tube was recently offered here by Rectorseal Div., Rector Well Equipment Co.

Claimed to be insoluble in water, petroleum fractions, LP gas, natural and manufactured gas, refrigerants, anhydrous ammonia, sulphur dioxide, and "Freon," the sealant spreads to thick plastic elasticity which prevents gas or liquids from leaking.

Hotpoint Announces Low-Cost Washer

——KEY NO. F-438——

CHICAGO — Hotpoint Co. has announced a new low-cost washer, model LH-12, that is fully automatic and all porcelain inside and out.

Stating that the washer is "competitively priced" and "offers good margins for dealers," Hotpoint said the model was introduced "to help its dealers meet increasingly competitive home laundry prices."

A single dial on the new washer regulates the amount of water and the length of the washing period and allows the user to skip, shorten, repeat, or stop any part of the cycle.

A new agitator water action which Hotpoint calls "Aquamatic" allows water currents to surge through the tub, "flexing fabrics so soil is thoroughly loosened and washed away."

The new model washer has a deep overflow rinse cleaning action, the manufacturer stated.

The LH-12 matches the LB-12 air blower dryer.

Time-Switch Regulates Daily Program 7 Days

——KEY NO. F-439——

GLENDALE, Calif.—A new 7-day time switch which automatically regulates a weekly program involving from one to six daily on/off operations was introduced here recently by General Controls Co.

Available with either self-starting synchronous motor or 7-day hand-wound spring for use on odd voltages, the switch is designed to provide control of air conditioning, heating, ventilating, fan, and refrigerator defrosting systems.

Each day's schedule may be varied or omitted and kept independent of another's. Operated manually, the switch will not change automatic periods.

Acme Cooling Towers Range 15 to 100 Tons

——KEY NO. F-4310——

JACKSON, Mich.—Acme Industries, Inc. has announced a new line of "Flow-Mizer" cooling towers in capacities from 15 through 100 tons.

Features of the 1956 line include stepped-up capacities and increased efficiency through incorporation of the new "Acme-Pak," the company said.

Wide spacing of the plates—there are only seven of them in each 2 in. of Acme-Pak—holds sedimentation and scale build-up to a minimum, it was said.

Centrifugal blowers provide quiet, constant-velocity air flow with ample capacity for use with ductwork, when needed, according to Acme. The blower section has outlets set at 45° angle to allow discharge in any direction.

"Locating the sump outside the tower has made servicing of the Flow-Mizer convenient and easy.

"The flush-type louvered air inlets eliminate splash-water escape even when the blowers are shut off. New track-type motor mounting provides a simple four-way adjustment for belt tightening and pulley alignment.

"All Acme towers are hot-dip galvanized after fabrication to provide a unit that won't rust, rot, or deteriorate under even the severest operating conditions."

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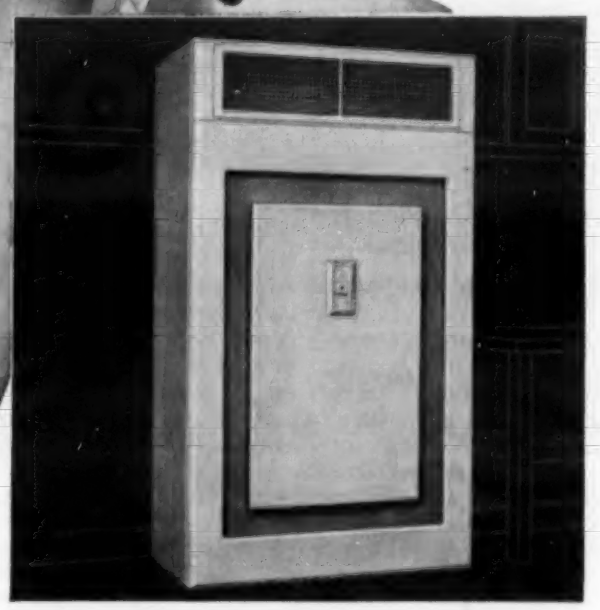

Here is large capacity air conditioning for businesses, and for homes where central air conditioning is desired. Gibson's extra capacity water-cooled condenser gives maximum efficiency with low water consumption. Adjustable air vents give flexible air distribution, and duct connections are convenient.

Available in 2, 3, 5 and 8 horsepower units, air cooled and water cooled in commercial (shown here) and residential models.

Take this Gibson Custom Air Conditioner, for instance! It has Gibson's new Infinite Control direction louver for no-draft circulation. Push Button Controls, of course, that control both cooling and circulation at either high or low speed. Permanent type electro-static dust magnet filter, and thermostatically controlled cooling. Exclusive Gib-Sun-Air Ozone Lamp freshens the air, removing stale odors.

Gibson window air conditioners are available in ¾ h.p., 1 h.p. and 2 h.p. Custom models and in lower priced Deluxe models with the same horsepowers.

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REFRIGERATORS • ROOM AND SELF-CONTAINED AIR CONDITIONERS
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For more information about products advertised on this page use Information Center, page 26.

One User's Ideas on Refrigerated Milk Trucks

Equipment Permitting Unsold Products' Return Under 50°F. Should Be Small, Lightweight, Easy To Maintain, Reasonable To Buy and Operate

CHICAGO — How one major dairy products firm looks at the subject of refrigerating systems for refrigerated milk delivery trucks was outlined in a talk which R. H. Dieterich of National Dairy Products Co., Inc. delivered before a recent meeting of the Illinois Dairy Products Association.

"We've all heard and read a lot about the advantages of mechanical refrigeration and the cost of operation compared to the use of wet ice," Dieterich said. "Most of us agree that changing to mechanical refrigeration is the thing to do, but some of us are not quite sure just which system or unit will do the job the way we want it done. We don't feel that any of the presently available equipment is completely satisfactory for refrigerating retail milk delivery trucks.

Definition of Term 'Satisfactory'

"Defining the term 'satisfactory,' I think we want equipment that will permit us to bring back to the plant at the end of the delivery day, any unsold products or returns at a temperature at or below 50° F. At the same time, that equipment should be light weight, occupy a minimum of space, be simple to maintain, and both operating and original cost should be reasonable.

"The two basic means of supplying refrigeration in the truck are, of course, plates and direct expansion coils. If we use plates, then we can freeze the eutectic solution in the plates either by means of ammonia supplied by the plant ammonia system, or by means of a self-contained compressor mounted on the truck. With refrigeration stored in the plates, it may not be necessary to have a compressor operating while on the route.

Blower Coils Do Not Store Refrigeration

"If we decide upon blower coils, we obtain refrigeration while at the plant by plugging the truck compressor into the plant's electric facilities, but we do not store refrigeration for use while on the road. We therefore must provide power to operate the compressor from the truck engine.

"We can get this power by connecting the compressor to the truck transmission, the fan belt pulley, or the crankshaft, or we can place between the compressor and the fan belt pulley an electric motor and a power converter called an alternator. The purpose of the latter arrangement is to obtain a more or less constant speed or efficiency of operation from the compressor.

"An ammonia system is perhaps the fastest method of supplying refrigeration to the plates in a truck. It also may be the least expensive from the standpoint of initial capital investment. Where the plant ammonia system has extra available capacity, where an engineer is on duty 24 hours a day, and where the parking area is near the plant, the installation of supply lines and automatic expansion valves can be less expensive than supplying a compressor for each truck—as much as $200 per truck.

"Where plant compressor facilities are already operating at full capacity, we probably would not add to the plant ammonia system unless there were 30 or more trucks to be refrigerated. In this case, the cost of maintaining more than 30 individual compressors might exceed the cost of expanding the plant facilities, particularly where an engineer is already required to be on duty 24 hours a day.

2 Ammonia Systems Considered

"Let's consider the two types of ammonia systems available to us in this application. We can use the automatic expansion valves mentioned above, one on each truck. However, individual valves sometimes may not function, particularly where the common suction line frosts. In addition, the cost of the individual valves can mount up to a considerable figure.

"It might be worthwhile, therefore, to use the alternate method of a forced circulation system, using a liquid ammonia pump. This operates at only 15 to 18 lbs. gauge pressure at the truck—the suction pressure on the plant compressor, whereas the other type using individual valves involves pressures of 185 lbs. gauge pressure. Forced circulation can be less hazardous because of this.

Forced Circulation System Faster

"Where the truck is available for only a short time, the forced circulation system is also the faster of the two, and can effectively freeze the plates in as little as six hours. There are, of course, disadvantages to this system of refrigeration using ammonia. The trucks must be parked within a reasonable distance of the plant.

"Trucks designed for this type operation cannot be shifted to a distributing branch not equipped with an ammonia system. Trucks must have the ammonia pumped out of the system from one to one and one-half hours before leaving the plant to exhaust most of the gas from the plates, which means that the plates may not be fully charged at the time of departure.

"Further, the forced circulation system is so fact that it may not be possible to leave the truck on refrigeration all night due to danger of freezing the product.

"At one of our plants in the south, the trucks are being changed over from the plant ammonia system to self-contained plug-in compressors because of lack of flexibility, because the load on the plant compressors is becoming too large, and because the location of the parking area requires long lines with false pressure readings resulting from the length. In addition, the fact that low temperature trucks are also on the line causes some difficulty. There are 26 milk trucks at this location.

Ammonia System Use Dependent on Conditions

"We might sum up the use of ammonia with plates by saying that there are definite advantages to this system, and that the decision has to depend upon local conditions. The specific situation as it affects the cost picture, the need for flexibility, and location of parking areas, are among the many factors that should be considered.

"Compressors of the plug-in type mounted on the truck to freeze the plates overnight are very satisfactory. Those of the sealed type require a minimum of maintenance. No matter where the truck is operated, provided electricity is available, refrigeration for the truck is at hand at its base. Maximum flexibility is provided, and where the plant refrigeration system is already operating at full capacity, supplemental refrigeration is provided.

"Cold plates, mounted either overhead or against the walls, are desirable because refrigeration is manufactured and stored at a point where it can be supplied most efficiently and economically. Maintenance is simple.

"However, they are heavy and, if hung from the roof, additional bracing must be built into the truck at a price. There will be a tendency toward top-heaviness, and cooling the air by convection air currents is obviously slower than by means of forced air.

"Many of our drivers complain about water dripping from the plates, and about the headroom taken away by the installation. Several of our plants have recently reported that wet ice was necessary to supplement the plates this past summer.

Need To Cool Air Admitted Through Door

"I realize that we can hold temperatures if we put in enough plate surface. We refrigerate ice cream trucks with plates. But there are days when we bring back plates that are not fully defrosted, yet product is over 50°. When we open the door and admit a lot of hot air, we've got to cool that mass of air in a hurry.

"It may be that we haven't hung the plates properly for utmost efficiency. They should be far enough from the ceiling to permit free flow of air over the plates, and they should be sloping to the sides of the body—lower at the outside edge to aid air circulation.

"Nevertheless, the K Factor of a plate so mounted is 2.5 as compared to a K Factor of 4.0 for a plate mounted in a housing such as the Truk Cel where air is forced over the plate by means of a fan drawing air through an intake at the bottom of the chamber. With a higher K rating, the air can be cooled

(Concluded on next page)

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VALVES
F-12, F-22, AMMONIA
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- SUCTION
- HOT GAS
- UNLOADING

HEAVY DUTY
SINGLE COIL
MANUAL LIFT

AVAILABLE CONNECTIONS ODS	FPT	Welding	Port Size	Tons, Freon-12 Liquid	Freon-12 Suction	Ammonia Suction
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1 1/8, 1 3/8, 1 5/8	1	1	1	40	7.0	14
1 3/8, 1 5/8, 2 1/8	1 1/4	1 1/4	1 1/4	60	10	23
1 5/8, 2 1/8, 2 5/8	1 1/2, 2	1 1/2, 2	1 5/8	100	15	35
2 1/8, 2 5/8	2	2	2	140	23	58
2 5/8, 3 1/8	2 1/2	2 1/2	2 1/4	160	25	62
3 1/8, 3 5/8	3, 2 1/2	3	3	300	60	130
4 1/8	4	4	4	.....	90	220
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Special Solenoid Valves are available for very low temperature suction lines; for gas leg or liquid leg of flooded gravity systems; for subcooled liquid lines of multi-stage systems.

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100 ALEXANDER AVENUE
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For more information about products advertised on this page use Information Center, page 26.

Refrigerated Milk Truck Equipment--

(Concluded from preceding page)

faster, and the possibility of keeping our product cold is better.

"As far back as 1951, National Dairy reported that it appeared that only such cooling equipment as involved forced circulation of air in the truck body could produce refrigeration fast enough to make up for the considerable losses occasioned by the frequent opening of doors; and to effectively cool products, if and when necessary. I've seen nothing to cause me to change my mind.

"Plates installed as in the Truk Cel take advantage of forced air circulation, and mean a lowered center of gravity, since they are mounted on the floor or on the wheel housing. The roof does not require reinforcing. Air circulation to all parts of the body is possible, and except for the fan unit with its electrical controls, this type installation is as simple for maintenance as straight plates.

"However, the unit is still heavy. If there is too much refrigeration capacity for the demand, the unit may not be entirely exhausted at the end of the day and frost and ice will build up, requiring attention daily and defrosting periodically.

Defrosting System Described

"Incidentally, one of our plants has worked out a very satisfactory method of defrosting these plates by means of perforated copper tubing permanently mounted over the top of each of the three or four plates in the housing. These tubes are manifolded and the one inlet is supplied with a quick connect hose coupling. When it is necessary to defrost, it's simple to attach a water hose and let it run till the ice is gone.

"Just a word about the weight of plates—regardless of location. We have found it almost impossible to measure the wear on the truck and the additional gasoline required because of this weight. So perhaps the weight factor is not as important as we sometimes believe, provided it does not limit us on our payload to a serious degree.

Examines System Using Truck Engine for Power

"Now let's look at those systems which, in addition to operating during the night by means of a plug-in unit, operate while on the road, using the truck engine as its power source.

"The difficulty with obtaining power directly from the transmission or the crankshaft has been in controlling the speed of the compressor, due to the wide range of speed of the truck motor. We've tried most of the units available through last summer and this weakness, to that time, had not been satisfactorily corrected.

"Units we used at our various locations work fine at the driving speed of the engine, but at idling, 500 r.p.m., the output of the compressor is insufficient to do the required cooling job. Since the engine is idling most of the time the truck is on the route, some of us have temporarily dropped this idea.

"In an attempt to even out the speed variation, the alternator is added to the system. The 90-volt current generated by this unit is such as to operate an electric motor, which in turn operates the compressor at a constant speed. However, to date we've not been completely happy with this type of unit either, for start-stop retail delivery.

"This past summer we had six such units at one of our plants. At idling speed with a 4½-in. pulley, there was not enough current generated to kick in the unit. To increase the speed, a 6½-in. pulley was substituted and the operation was fine at idling speed. But when the truck started down the road, the higher speed tore apart the alternator. So our solution at that location was to continue with the smaller pulley, but to idle the engine at 1,100 r.p.m. instead of the regular 500 r.p.m.

"We have been supplied with a heavier alternator to help withstand the high speed, but the answer is not complete. What is needed is a throw-out clutch that will permit effective operation at the lower engine speeds, but cut out the unit when it reaches a certain maximum speed. Another unit of this same type has been taken off all short start-stop routes and is being used on routes 100 miles or more in length.

System Has Advantages If Difficulties Overcome

"The advantages of this type unit are several, providing the operating difficulties can be overcome. They are relatively light in weight, air circulation is excellent with fast temperature recovery, and since they are self-contained, they are extremely flexible.

"But there are disadvantages too. If for any reason the unit breaks down, there is no holdover refrigeration capacity.

"Since there is no holdover, it must operate all the time the truck is on the route, which of course means that the motor must operate continuously. If certain cities such as Rochester, Boston, and Buffalo enforce the ordinance that is currently on the books to the effect that motors of unattended trucks must be shut off, then we're practically out of business as far as this type of refrigerating system is concerned.

"With respect to the most important item for a refrigerated truck, the refrigerating unit, I believe that we must continue to very seriously consider, watch and test the new units being placed on the market currently. There are a number of new ones that were displayed at the recent refrigeration convention—to mention a few, the Coldmobile alternator unit, the new Kold-Trux flexible shaft power take-off, the York alternator system, a new General Electric alternator package.

"However, at the moment, for refrigerating retail trucks, I think I would take a conservative approach and put a unit such as Dole Truk Cel, model No. CHO-26 on the wheel housing of the truck. It would not necessarily be the Truk Cel but would incorporate the idea of hold-over plates enclosed in a metal housing with an air inlet in the bottom and an air outlet and fan at the top.

"The self-contained compressor would operate only while the truck is in the garage but would permit us to take advantage of pre-loading since we would be obtaining refrigeration by means of the plug-in unit while the engine is not operating."

a VIKING tradition

To the Viking, shipbuilding was the noblest of callings, and in this craft Norsemen achieved a degree of skill unequalled in their times.

The men who swung their mighty axes to hew the timbers were stalwarts of strength and sinew — from whose hands came the lasting tradition of the great seaworthiness of Viking sailing ships.

Today, in the commercial refrigeration and air conditioning industry, the name VIKING has established a *tradition* for fabricating the finest in copper tubing . . . embodying the latest in production methods to develop extra strength and durability. True to their namesakes, modern VIKING craftsmen continue to produce the very finest copper tubing . . . a tubing worthy of the name VIKING!

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Viking Copper Tube is soft and pliable, yet exceedingly rugged. It saves time and labor because it can be coiled, formed, flared and expanded quickly without danger of fracturing or splitting.

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Viking Copper Tube is triple-sealed at the ends, stays dry and absolutely dirt-free. The seal is made to pass through any opening large enough for the tube itself. It's clean . . . it's bright . . . it's dry!

Michigan Appliance Dealers Convene In Lansing To Hear 12 In All-Day Profit Clinic April 17

LANSING, Mich. — Hundreds of appliance and television dealers from all parts of the state will gather here on April 17 to hear addresses by members of NARDA's executive committee, Michigan utility executives, and other industry authorities attending an all-day Profit Clinic at the Olds hotel, W. E. Carlson, acting secretary of the Michigan Appliance Dealers Association, announced.

Speakers on the program will include NARDA President Don Gabbert, whose luncheon address topic will be "You as an Executive,"; NARDA Board Chairman, Mort Farr, whose banquet address will be on "Color Television"; E. O. George, general sales manager of Detroit Edison Co., talking on "Tie the Industry in with Progress"; and Claude Mulligan, vice president, Consumer Power Co., whose opening address will be on "Dealer-Utility Teamwork."

Ver Lynn Sprague, midwestern manager, Amana Refrigeration Co., will deliver the leading talk of the afternoon, "Capitalizing on Your Resentments."

Among the other speakers of the day will be Joseph Fleischaker of Will Sales Appliances, Louisville, NARDA vice president, on "Money Management"; J. A. Cobbey, prominent Chicago and Clearwater, Fla. attorney and chief legal counsel of NARDA, on "Is It Legal?"; Victor P. Joerndt of Joerndt and Ventura, Kenosha, Wis., Kenneth Stults of Electronics Specialties, Muskegon, Mich., and a television service authority from Lansing on "Television Service"; Dick Vanderwall, president of Grand Rapids Appliance Dealers Association, on "Builder Sales"; John K. Mooney, Broyles Electric Co., Marion, Ind., on "Your Store is Different"; and A. W. Bernsohn, NARDA managing director, on "What We Can Accomplish Together."

Chairmen of the sessions will be Paul Dettling of Dettling & Co., Jackson, Mich., in the morning, Carlson at noon, Vanderwall in the afternoon, and Stewart Greenley, Greenley's, Flint, Mich., at the banquet.

Cost for the entire day, including all sessions, luncheon, hospitality period, and banquet, will be $8 in advance, $9 at the door. All appliance and television retailers, distributors, manufacturers, and other interested parties are welcome.

This is the fourth annual get-together of the Michigan Appliance Dealers Association, the first held outside Grand Rapids, Carlson said. It is being held in conjunction with the semi-annual meeting of the NARDA executive committee, which meets every spring and fall between the winter and summer meetings of the full NARDA board of directors.

Refrigeration Problems And Their Solution

By Paul Reed

For Service and Installation Engineers

Estimating Capacity Of Room Units

How can one tell if a room air conditioner is working satisfactorily? Whether or not it is cooling the room to the temperature desired by the user, is not a true test; nor even whether or not it is cooling the room to what is generally considered as a comfortable condition according to the comfort chart.

Perhaps the air conditioner was not big enough in the first place. Perhaps conditions have changed since it was originally installed—more people in the room, more smoking, requiring more ventilation, additional electrical appliances, etc.

Excessive latent load may occur on "muggy" days. It may not be very "hot" outside, that is, the dry-bulb temperature may not be very high, perhaps no more than 90°, but the humidity is high.

On such days, the entire capacity of the air conditioner may be required in condensing the moisture out of the fresh, make-up air, and there is little, if any, reduction in dry-bulb temperature. It is often very difficult to explain this to a user who may think that it is merely an excuse.

CHECK MECHANICALLY FIRST

If you check the air conditioner over carefully and can find nothing mechanically wrong, the chances are that it is doing all that it can, and is developing its full capacity.

Nevertheless, it is sometimes helpful to be able to make some tests that will enable you to make a reasonably accurate estimate of capacity.

Manufacturers of room air conditioners must invest thousands of dollars in test equipment to enable them to determine the capacity of their air conditioners. They certainly would not do so if there were some simple method, using inexpensive instruments such as the man in the field can afford to have, that would give accurate results.

FIELD CAPACITY TEST NOT ACCURATE

The following method is therefore not very accurate, but will estimate the capacity of the conditioner close enough to enable the field service engineer to determine if the air conditioner is developing about as much capacity as can be expected of that size unit.

If this test shows that the unit is doing all that can be expected of it, and is still unable to cool the room to a comfortable condition, then a larger unit will have to be used.

The only instruments required are, a tape measure, two wet-bulb thermometers, and an instrument for measuring air velocity, such as an anemometer or velometer. One wet-bulb thermometer can be used, but it is better to have two. In either case, they must be accurate.

This test depends upon the principle that the wet-bulb temperature of air is the measure of its total heat, that is, the sensible heat of the air itself plus the latent heat of the moisture in the air.

HEAT REMOVED PER POUND OF AIR

First, we take the wet-bulb temperature of the air entering

(Concluded on next page)

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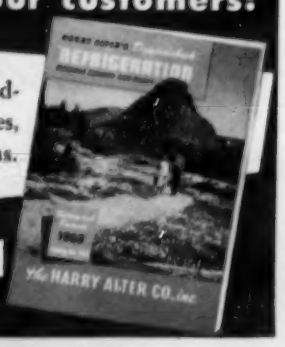

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For more information about products advertised on this page use Information Center, page 26.

Room Unit Capacity--

(Concluded from preceding page)

the conditioner from the room. From psychrometric tables or from a psychrometric chart, we find the total heat in B.t.u. of a pound of air having that wet-bulb temperature.

The following table of Total Heats, while incomplete, covers most of the wet-bulb temperatures that will normally be encountered in making this test:

Wet Bulb Temp. °F.	Total Heat B.t.u. per lb. of air
51	20.74
52	21.30
53	21.87
54	22.45
55	23.04
56	23.64
57	24.25
58	24.88
59	25.52
60	26.18
61	26.84
62	27.52
63	28.22
64	28.93
65	29.65
66	30.39
67	31.15
68	31.92
69	32.71
70	33.51
71	34.33
72	35.17
73	36.03
74	36.91
75	37.81

Next, we do the same thing for the cooled air leaving the conditioner, and subtract this total heat from the total heat of the air entering the conditioner. The difference is the heat, in B.t.u. per pound, that was removed by the unit.

Then all we need is the pounds of air passing through the conditioner per hour, for if we multiply the pounds of air cooled per hour by the B.t.u. of heat removed from each pound of air, the answer is the total amount of heat, in B.t.u. per hour, removed from the air.

POUNDS OF AIR PER HOUR

Since we cannot catch the air and weigh it on a scale, we must use some other method of finding the weight of the air passing through the unit each hour.

With an anemometer or velometer, we determine the *average* velocity of the air leaving the conditioner in feet per minute, and multiply it by the face area of the evaporator coil in square feet. This gives us the cubic feet of air per minute (c.f.m.) of the air passing through the conditioner; that is the c.f.m. of the unit.

We can use the manufacturer's published data on the c.f.m. of that model unit, provided that we are sure that the coil and filter are clean, that the fan motor is running up to speed, fan is clean, in good condition.

Next, we multiply the c.f.m. by 60, to get the cubic feet per hour. Then we multiply this by the weight of a cubic foot of air. This varies according to the temperature and moisture content of the air, but for the average condition of the air passing through an air conditioner, it is about .075 pounds per cubic foot.

Instead of multiplying the c.f.m. by 60 and then by .075, we can shorten it by multiplying the c.f.m. by 4½ (60× .075 = 4½), which will convert c.f.m. of air to pounds per hour.

EXAMPLE: B.T.U. PER HR. = B.T.U. PER LB. × LBS./HR.

As an example, we have a nominal ¾-hp. window unit: the wet-bulb temperature of the air entering the conditioner from the room is 66°, and of the air leaving the evaporator is 57°. The face dimensions of the cooling coil are 9 in. by 15½ in., and the *average* velocity of the cooled air leaving the cooling coil is 300 f.p.m. as measured by the anemometer or velometer.

The total heat of air at 66° wet bulb is 30.39 B.t.u. per pound of air, and at 57° wet bulb, it is 24.25 B.t.u. per pound. The difference, 6.14 B.t.u. per pound, is the heat removed from each pound of air.

The face area of the cooling coil is 9 × 15½ or 140 sq. in.; dividing this by 144, we get .97 as the face area of the cooling coil in square feet. Multiplying .97 × 300 f.p.m. we get a total of 291 c.f.m., or 1,310 pounds of air per hour (291 × 4½).

Since the difference in total heat per pound between the 66° wet-bulb and the 57° wet-bulb air was 6.14 B.t.u. per lb., 1,310 lbs. per hour × 6.14 B.t.u. per lb., gives 8,043 B.t.u. per hour as capacity of ¾-hp. unit.

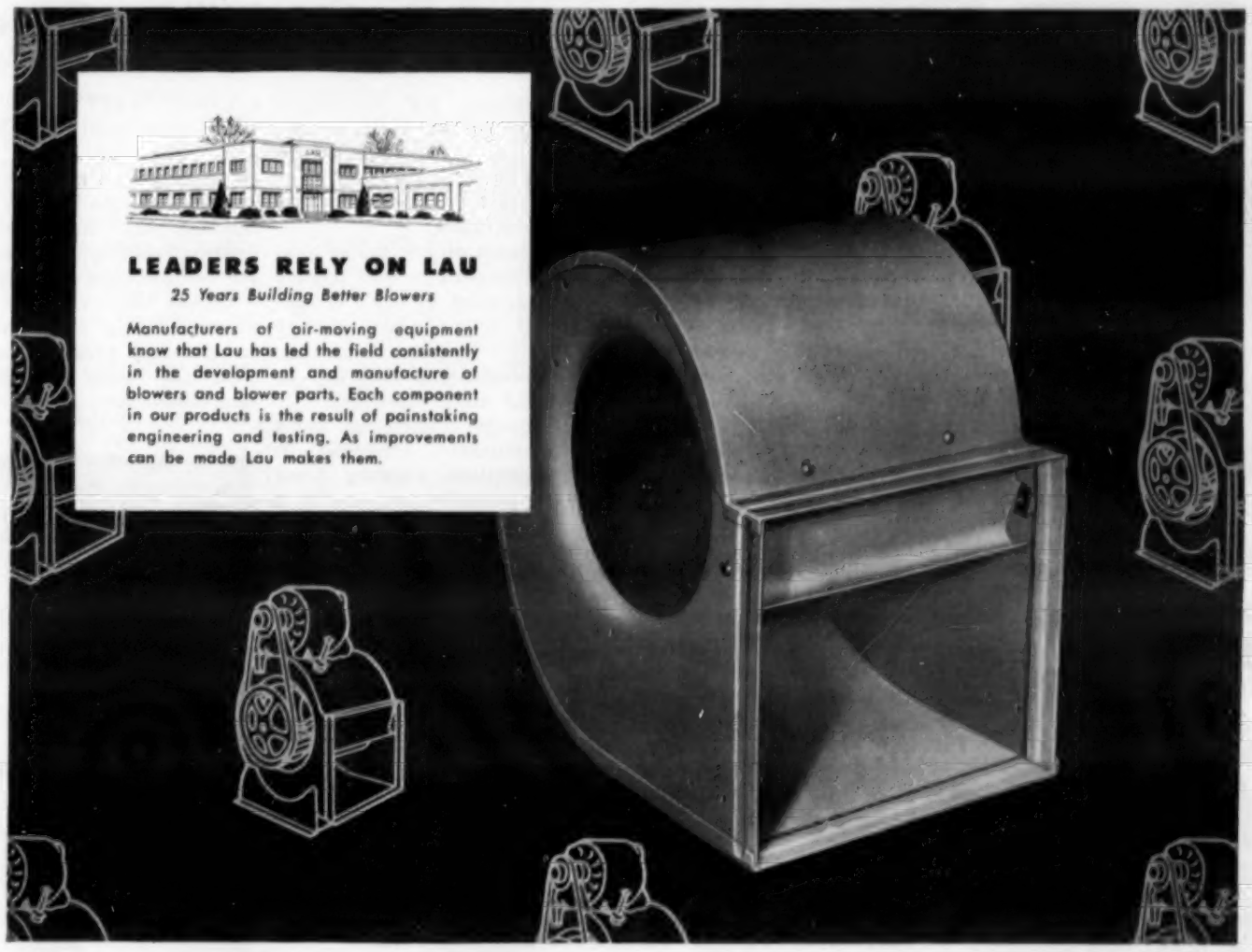
ACCURACY DEPENDS ON CARE USED

Before taking any readings, close the outside fresh air baffle entirely (if necessary block it with cardboard) and let the unit run long enough that the two wet-bulb thermometers settle down, that is, until their readings show no change.

Place the wet-bulb thermometer for the outlet air as close to the face of the coil as possible, so that its reading is not affected by room air drawn into the cold air stream. Take wet-bulb temperatures carefully, for an error of ½° in reading either thermometer will affect the accuracy about 5%.

When reading the air velocity, stand to one side of the unit, so as not to block air circulation. Also take *several* velocity readings around over the face of the cooling coil and average them. Be sure that the coil is clean, and either use a new filter or remove the filter for a few minutes while taking the air velocity readings.

The above method, although not 100% accurate, will enable you to estimate the capacity of the unit closely enough to determine whether failure of the unit to adequately cool the room is the fault of the unit or the heat load is over capacity.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LB-5, 56
This original LAU design has set the pattern for the industry. Of heavy gauge steel, with beading reinforcements around discharge opening to assure uniform size, shape and strength. The offset in scroll sides gives better support to the bearing bracket and allows smooth air flow for maximum blower efficiency. Motor mounting holes are pre-punched for all angles of discharge. The specially designed cut-off is built for extra strength and is permanently fastened in four places. Plated hardware throughout.
The entire unit is die-formed, lending itself to mass production on precision built equipment. Finished in highest grade baked enamel. Wide range of sizes available.
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LAU-PAK BEARING
SERIES "A" WHEEL
WELD WHEEL
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BEARING BRACKET
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Typhoon Heat Pump Names H. L. Jobes As Sales Manager

TAMPA, Fla. — Appointment of Harry L. Jobes as sales manager, Typhoon Heat Pump Co., Div. of Hupp Corp., has been announced by James F. Dailey, president.

H. L. Jobes

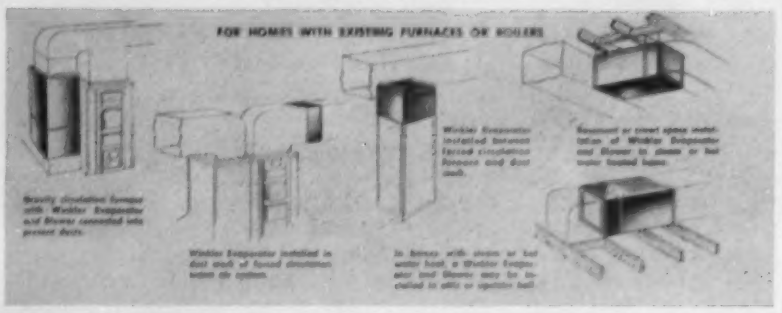
A graduate engineer, Jobes has been a district manager for Typhoon.

Before joining Typhoon, Jobes was assistant sales manager for Remington Corp., and prior to that general manager of Metal Products Div. of U. S. Radiator Corp.

Jobes will be in charge of residential and commercial sales.

Winkler Residential Air Conditioning Features Flexibility

WINKLER condensing unit can be installed in a variety of locations—beside an exterior wall (l.); suspended in carport or garage (center); or installed on a sun deck (r.).



FROM left to right the Winkler evaporator is shown connected into present ducts with blower in gravity furnace; installed in ductwork of forced circulation warm air system; installed between forced circulation furnace and ductwork; hung in basement or crawl space with blower in steam or hot water heated home; or installed with blower in attic or upstairs hall.

LEBANON, Ind—Air conditioning equipment which "can be used with all types of heating systems" has been announced by the U. S. Machine Div. of Stewart-Warner Corp.

The new equipment can provide central air conditioning with the minimum of special ducts, structural changes or sacrifice of usable space for compressors, fans, etc., the company asserts.

The condensing unit is placed on a small concrete base at ground level, close to the house, or suspended from carport rafters, thus keeping all operation noises outside and providing accessibility for servicing.

Only the evaporator coil and blower, which deliver the cooled air, plus small diameter copper tubing carrying refrigerant to and from the remote condensing unit, are inside the house.

Herman Winkler, general sales manager, said that the evaporator can be installed atop vertical furnaces; in counterflow furnaces for perimeter cooling; or, with horizontal furnaces, in all cases circulating cooled air through existing ductwork. Here the furnace blower would be utilized.

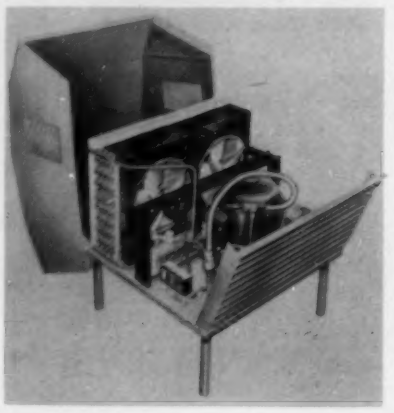
With steam or hot water systems, an evaporator and blower can be installed in attic or upstairs hall, or in the basement or crawl space. In these instances, too, the condensing unit will be outside the main structure.

The remote condensing units are immediately available in three capacities, ranging from cooling capacity of 22,500 B.t.u./hr. to 62,000 B.t.u./hr.: or, stated in horsepower, 2, 3, and 5 hp. All three sizes are available either air cooled or water cooled.

Evaporator coils are of two types—"A" type, for vertical air flow, and "H" type, for horizontal air flow.

The blower units are available in sizes to meet requirements of the system with which each is to be used. Fan motor horsepower and fan diameter range from ¼ to ½ hp., and 9 to 15 in.

Volume production and shipment to dealers began Feb. 1. The equipment is being marketed only after a year of field experience, the company stated.



CONDENSING UNIT with cover removed.

Williamson Illuminated Sign Changes Color

CINCINNATI — An illuminated sign that changes color and gives the effect of continual motion was recently made available to its dealers by Williamson Co., manufacturer of heating, cooling, and year-round air conditioning equipment.

Called "Signeramas," the new merchandising aids are similar to standard plastilux signs except for color change when fluorescent lamps flash on and off.

Coleman Civilian Sales Gain Tops Defense Loss

WICHITA, Kan.—Sales of all types of consumer goods manufactured by Coleman Co. were greater in 1955 than in the preceding year, it was reported by Sheldon Coleman, president and general manager.

The net gain in civilian sales offsets a drop of more than $6,000,000 in aircraft components produced under defense contracts.

Consolidated net sales for the year were $42,014,966 compared with $41,792,695 in 1954. Earnings after taxes were $1,277,850 or $3.04 a share on the 400,000 shares of common stock. Earnings in 1954 were $1,234,338 or $2.92 a share.

Coleman said sales in the first quarter of 1956 were running about 30% ahead of the same period last year.

The company's annual report disclosed sales of domestic products within the United States were 23% ahead of 1954. Major gains were reported in the manufacturer's line of equipment for home heating and year-round air conditioning, mobile home heaters, and appliances for outdoor lighting, cooking, and heating.

Looking ahead, Coleman said the management of the firm has planned for a further growth in 1956 of $7,000,000 in civilian sales. Military business will decline about $3,500,000, it is estimated.

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Now off the press—
NEW Primore Refrigeration Valve Catalog

Here's a book that enlightens you on many of your valve problems. This comprehensive catalog gives complete details, application data and other pertinent information on the many types of valves now used on Household and Commercial Refrigeration Units, Residential and Automotive Air Conditioning, as well as Compressors, Receivers, Condensers and Evaporators. Primore Valves are hydrogen brazed steel constructed, thereby resulting in considerable savings to the user. A section of this catalog also covers Special Valves, Parts and Fittings.

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TROUBLE-FREE SOLENOID STARTERS

This typical Allen-Bradley control panel for air conditioning and refrigeration has a Bulletin 709 solenoid starter . . . long a favorite for its trouble-free operation.

This panel also has an Allen-Bradley Bulletin 837 adjustable thermostat, a Bulletin 836 high pressure cutout, and a Bulletin 600 manual starter in a single enclosure.

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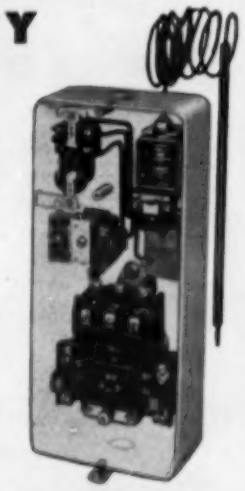

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ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
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For more information about products advertised on this page use Information Center, page 26.

Servicing Automobile Air Conditioners

BY C. DALE MERICLE

This is the final instalment describing the air conditioning system installed in Lincoln and Mercury cars. Discussion of the Chrysler system will begin next week.

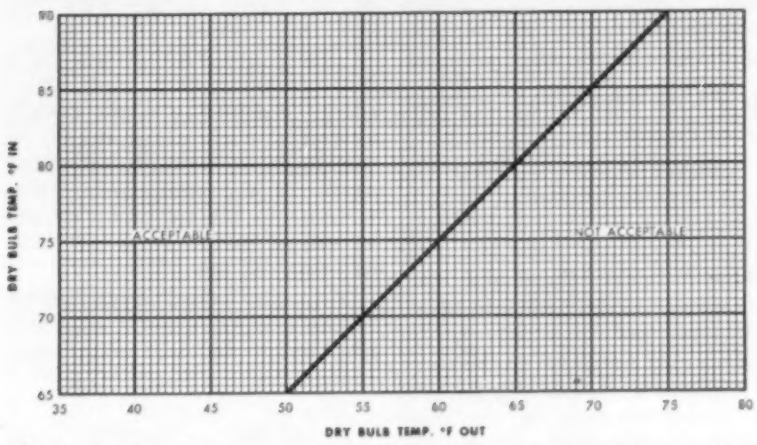

FIG. 11—Performance of Lincoln-Mercury system can be checked against this chart. Temperature readings which fall to left of diagonal line are acceptable; those on right are not.

LINCOLN-MERCURY (5)

Operating Temperatures

To check a Lincoln or Mercury air conditioning system to determine if it is producing "acceptable" temperatures, the following procedure is recommended by the factory:

Car should be placed in an ambient temperature of 70° F. or above for best results.

Engine should be operated at 1,500 r.p.m. for 10 minutes with all windows, doors, and vents closed, and fresh air intake control levers open. All four discharge air grilles in headliner should be set in forward position.

Temperature control lever should be set in full "on" (coldest) position, and blowers set for high speed.

Temperature readings are taken at return air intake on package tray and one rear outlet, inserting thermometers in grilles to make good contact with air stream.

Readings of temperature so taken are then checked against chart shown in Fig. 11.

Return air temperatures are noted on the chart according to the vertical scale on the left side while discharge air temperatures are plotted according to the scale along the bottom of the chart.

Temperature readings that fall to the left of the diagonal line of the chart are acceptable, those on the right of the diagonal line are not acceptable.

If, for example, the air entering the return air grille was 75°, and the air at the outlet was 55°, this point would fall to the left of the diagonal line and therefore be acceptable. But if the return air was 75° and the outlet air 65°, this point would fall to the right of the diagonal line and wouldn't be satisfactory.

Service Problems

Improper pressure reading and inadequate cooling could indicate that the modulator valve is stuck open or shut.

1. Modulator (by-pass) valve stuck open.

With engine running at fast idle speed there will be minimum cooling. Changing position of temperature control lever will have little or no effect on pressure readings.

2. Modulator (by-pass) valve stuck shut.

With engine running at fast idle speed there will be maximum cooling. Changing position of temperature control lever will have little or no effect.

3. Leaking valves.

Low pressures may be the result of leaking compressor intake valve or leaking suction service valve.

Turn suction service valve clockwise until seated, and then start engine and run until at least 15-in. vacuum is shown on gauge. If this reading can't be reached, one of the valves is leaking.

To determine which valve is leaking, disconnect and cap flexible hose at suction service valve leading to compressor intake. If a 15-in. vacuum can then be obtained, suction service valve is leaking. If a 15-in. vacuum can't be obtained, compressor valve or hose is leaking.

4. Expansion valve stuck open.

With engine running at idle, an expansion valve stuck open may cause the compressor to knock from liquid slugging while any cooling that occurs will be in upper portion of evaporator and suction line.

5. Expansion valve stuck shut.

Little or no cooling will take place even though temperature control lever is in full cold position.

Trouble Chart

1. Insufficient cooling.

Causes can be:

A. Shortage of refrigerant, indicated by bubbles in sight glass and excessively low suction pressures.

B. Defective expansion valve, indicated by excessive high and low-side pressures.

C. Obstruction in air circulating system, such as dirty filter, blocked return air grille, tears or restrictions in air ducts.

D. Defective modulator (by-pass) valve, indicated by head pressure below normal, suction pressure above normal.

2. No refrigeration.

Causes can be:

A. Loose or broken drive belt, a loose belt being indicated by both high and low-side pressures being the same at any engine speed.

B. Inoperative magnetic clutch.

C. Inoperative compressor valves, indicated by only slight variations in high and low-side pressures at any engine speed.

D. Break in system, indicated by no pressure in any part.

3. Compressor excessively noisy.

Causes can be:

A. Discharge service valve shut off, indicated by excessive high-side pressure and compressor knocking.

B. Insufficient oil in compressor, indicated by compressor crankcase being excessively hot and noisy.

C. Loose or worn parts in compressor.

D. Excessive charge of refrigerant, indicated by excessive high-side pressures.

4. No, or intermittent, air circulation.

Causes can be:

A. Blower motors shorted or windings open.

B. Loose connections.

C. Wiring shorted or open.

D. Control panel switches inoperative.

E. Fuse blown.

NEW WATERLESS CENTRAL COOLING

WILLIAMSON Waterless Wethermatic AIRefrigeration units can be added quickly and easily to any residential or store forced air heating system. Choose from plenum, duct, counterflow, suspended horizontal or console types for efficient low cost operation.

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THE WILLIAMSON CO., 3320-E2 Madison Rd., Cincinnati 9, Ohio

There's nothing like high reserve capacity!

PA® 400 has the highest capacity for moisture adsorption under the most adverse conditions in refrigerator operation . . . higher than any other desiccant. This reserve capacity is a safety factor. PA 400 keeps the refrigerator running even though there is sufficient moisture in the system to completely "saturate" other desiccants.

No other refrigeration desiccant gives you as much as PA 400 . . .

- Highest capacity
- Minimum pressure drop
- Physical adsorption not chemical action
- Non-dusting
- Adsorbs acids
- Dries refrigerants to below 2ppm at 120° F.
- Non-deliquescent
- Does not channel

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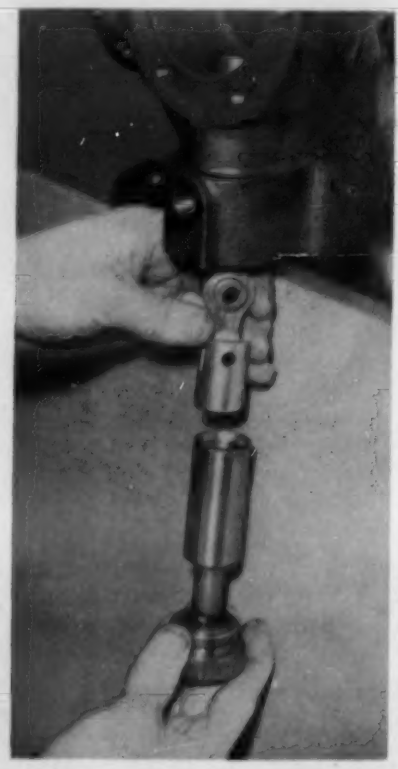
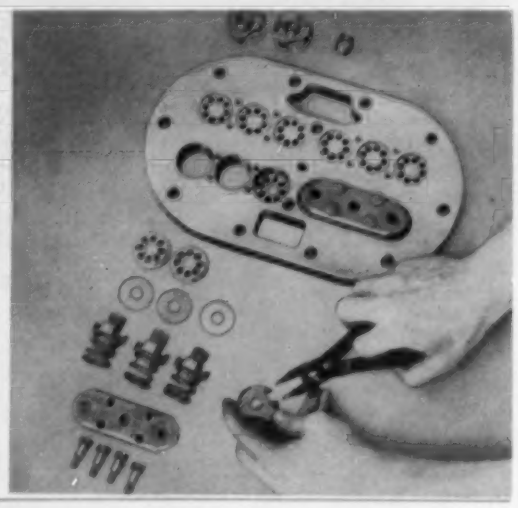
CHICAGO 7, ILL.

Suggestions for 'NR' Open Compressor Repair

Valves, Oil Pump Most Likely To Offer Service Problems; Units Can Be Built In Field from Casting Up, Experts Say





RIGHT: Servicing compressor valves on Brunner's new "NR" compressor line is claimed to be a simple operation. Once valve plate assembly is removed from compressor, individual valves can be replaced by box wrench and pair of snap ring pliers. Box wrench is used to remove safety spring assembly, and then pliers are used to compress snap ring which holds valve in place.

LEFT: Simple oil pump in Brunner's "NR" compressors is easily removed for repair or replacement. Pump is partially disassembled here.

UTICA, N. Y. — Important service suggestions on the new "NR" series of Brunner open compressors now being introduced to the field in increasing numbers have recently been made available by Joseph Raufeisen, chief engineer, and Joseph R. Connors, service manager, who point out that chief service problems will likely be limited to valves and the oil pump which has been added to provide force-feed lubrication.

And the valves and pump, these officials believe, have been designed in such a manner to simplify servicing if and when that should become necessary.

Continuing the policy of design employed in the "R" series of compressors, the new models "can be built from the casting up by any man in the field with the normal service tools," the company claims. "There are no selective fits, and all parts are interchangeable in their range."

Units Made In 10 to 100-Hp. Sizes

At present the "NR" series is being turned out in 10, 15, 20, 25, 30, 40, and 50 to 100-hp. sizes, but production will follow shortly on all other sizes down to 2 hp., the firm said.

Within a given range of sizes, valves and valve plates of the new Brunner compressors are interchangeable. Individual suction and discharge valves are alike, but the quantity varies according to compressor size.

"The valve plate itself is a simple plate with holes bored in it to a shoulder which retains the valve parts in place," it is explained. "Valve seats, springs, discs, retailers, etc., are replaceable."

Individual valves are replaced if required in a simple fashion, the manufacturer claims. After the valve plate has been removed from the compressor body, replacement of individual valve requires the use only of a suitable box wrench and a pair of snap ring pliers.

The box wrench is needed to remove the simple safety spring assembly which is designed to allow a certain, limited amount of liquid refrigerant to pass through the valves undamaged.

Gives Protection Against Liquid Slug

"This is designed to give protection against a liquid slug, but, of course, the plate will not hold up under steady slugging resulting from an improper installation," the firm declared.

After the safety spring assembly has been removed, the valve itself can be taken out of the plate quickly merely by using a pair of snap-ring pliers to compress the snap ring which holds the valve in position in the plate.

Only in the event of abnormal damage would it be necessary to replace the valve plate itself, the company thinks.

Damaged or defective valves would, of course, be replaced as outlined above. Because all the valves are alike over a broad range of compressor sizes, it won't be necessary to maintain a large inventory of replacement valve parts, says Brunner.

New Line Features Oil Pump

Another feature of the new "NR" line of special interest to servicemen is the oil pump which Brunner has added in order to enable these new compressors "to meet certain specifications not met by earlier lines," the company explains.

This is a simple piston type oil pump working off the shaft of the compressor and is completely accessible, the company claims. It consists of an eccentric rod integral with a piston, a cylinder sleeve, and two retaining parts.

In order to remove the oil pump for repairs or replacement of parts, the thrust cover plate at the end of the compressor is first removed. An Allen set-screw wrench is then used to remove the bolt connecting the eccentric rod to the shaft. By next removing the hex nut on the bottom of the crankcase housing, the complete oil pump, including the cylinder sleeve, will drop out into the hands.

Individual parts of the oil pump can be replaced since there are no selective fits used. In most instances, the company claims, oil pumps can be repaired or replaced within only a few minutes.

Besides the accessibility and simplicity of the oil pump, another of its features being emphasized by Brunner is that in the event of oil pump failure the compressor will continue to be lubricated by splash feed.

Although provision has been made by Brunner so that a warning bell or light can be hooked into the oil pump circuit to warn of an oil pump failure, it isn't necessary to provide for compressor shut-off in the event of oil pump failure with the new "NR" series.

"There are many times on a remote installation when operating personnel are not always available, such as at night, on weekends, or holidays," Brunner says. "If the compressor kicks out due to the oil pump failure at one of these times, the product may be lost."

The splash-feed arrangement, Brunner says, will provide safe lubrication of the compressor even if the oil pump fails.

Brunner suggests that a warning bell or light be wired to the oil pressure switch so that it will provide a signal if the oil pump fails. Although the compressor will continue to operate satisfactorily on splash feed, the pump should be repaired as soon as possible, the company advises.

Suction Side Is Internally Manifolded

Another feature of interest to servicemen is that the suction side of the "NR" series is internally manifolded, which not only simplifies installation but permits the use of an oversized suction strainer screen, Brunner says.

The screen is accessible without removing or disturbing the line valves. To get at the screen the serviceman removes a small plate near the top of the crankcase between the cylinder banks at the flywheel end of the compressor.

Incidentally, physical size and weight of the new line has been reduced over the "R" series.

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We require a salesman with the following qualifications to call upon jobbers:

Intimate acquaintance with Midwest jobbers.
Must thoroughly know refrigeration.
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The right man can secure an unusually good position with a bright future.

Write Lyman B. Betz, Betz Division, Bohn Aluminum & Brass Corporation, Hammond, Indiana.

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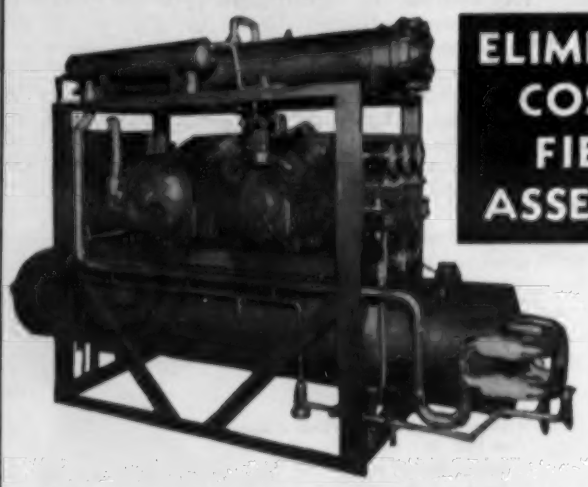

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QUALITY
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'Phone or write Acme for details

SLANTS on Service

Replacement of Multiple V Belts

When multiple V-belts are replaced because of wear, belt engineers of the Thermoid Co., Trenton, N. J., advise that several points should be observed to obtain good service from the replacement belts.

Normally the original belts are selected and, in some cases, installed by the original manufacturer in sets of equal length.

When the belts have served their expected life, the sheaves or pulleys will be from one-half to fully worn out, also. All too often, the new replacement belts are installed on badly and unevenly worn pulleys which will drastically reduce the life expectancy of the replacement belts.

The best practice is to replace the pulleys when the belts are replaced. In any case, the pulleys should be examined for roughness in the grooves which will cause excessive wear.

The grooves should be checked for uneven wear. The belts may be matched but not the grooves. To check for uneven groove wear, move the matched belts from groove to groove and test for difference in play. If uneven tension is observed, the pulleys should be replaced.

Sherer Names Scheible Assistant Sales Manager

MARSHALL, Mich.—John S. Twist, vice president of sales for Sherer-Gillett Co., has announced the appointment of Robert O. Scheible as assistant sales manager.

R. O. Scheible

For three years, Scheible has served as an assistant in the sales department. He joined the company in 1949 as a retail salesman.

Scheible served in the U. S. Air Force from 1941 until 1945. For 2½ years he was a prisoner of war in Germany, having been shot down over St. Nazaire while serving as a group bombardier with the rank of captain.

General Controls Adds Space In San Francisco

GLENDALE, Calif.—General Controls Co. announces the construction of a new building at 600 Bryant St. that will increase San Francisco facilities 120%.

The new showroom and warehouse will encompass 4,400 sq. ft., with office quarters located on a level above an auto driveway. Test facilities will be provided, and service schools and sales meetings will be accommodated.

S. California Radio News Program Keeps Engineers Informed

LOS ANGELES — There's something new in the air for area engineers in southern California.

It's a radio news program—broadcast Monday, Wednesday, and Friday nights at 10:15 over KFI — devoted exclusively to coverage of latest developments in Southern California's technical community.

Called "News for Engineers," the recently-inaugurated series of five-minute programs is sponsored by Beckman Instruments, Inc. It's designed to keep technical personnel abreast of events in all phases of engineering and also to stimulate interest among students in engineering as a career.

The programs feature news of significant technology advances in industry and education, important personnel changes in engineering circles, and news of technical societies, the announcement stated.

The program format also includes interviews with newsmakers in the various engineering fields, reports on special courses and projects at schools and universities, and news of engineering awards.

The show is prepared by A. X. Schilling, editor and publisher of the monthly *Engineer of Southern California*, it was noted.

200 Attend M&V Supply Refrigeration Seminar

OKLAHOMA CITY — More than 200 contractors, architects, distributors, dealers, servicemen, and students attended a seminar on refrigeration held here recently under sponsorship of M & V Supply Co., distributor for Refrigeration Engineering, Inc. in the Oklahoma trading area.

Held at Beverly's Drive-In on two evenings, the seminar was conducted by H. A. Halls, national service manager of Refrigeration Engineering. Attendants included guests from Oklahoma A & M college, the University of Oklahoma, Tinker Air Force Base in Oklahoma City, and the Naval Air Technical Training Center, Norman, Okla.

Kinetic Transfers Western Sales Office

PALO ALTO, Calif. — The western district sales office of the du Pont Co.'s Kinetic Chemicals Div. has been moved to Palo Alto.

The new facilities, located at 533 Cowper St., will serve customers for the company's "Freon" refrigerants and propellents in the 11-state area west of the Rockies, District Manager Samuel N. Seely announced. The Kinetic office had been located for the last six months in Menlo Park, Calif.

A plant for the manufacture of the "Freon" compounds is now under construction at Antioch, Calif.

Independent and Modern Unite as One Wholesaler

ST. LOUIS — Independent Plumbing and Heating Supply Co. here announced recently it has combined with Modern Supply Co. and all future operations will be conducted on wholesale basis only.

Ipsco moved into the recently-expanded Modern Supply building at 3800 Market St. where warehouse operations will also be continued, it was added.

Showrooms for both plumbing and heating fixtures and equipment will be maintained at the former Ipsco location, 1119 Chestnut St. With the exception of the display rooms, the entire heating department has been transferred to the Market St. site, with E. W. Boverie as head.

Ipsco claims to be the oldest independent wholesaler in the midwest area.

No. 1 industry favorite

PARAGON 300-MB time switch is right for 90% of all refrigeration defrosting jobs

No. 1 favorite? You bet! From the day the Paragon 300-MB switch was introduced, it has been the standard of the refrigeration industry — and its uses are growing daily. It's standard for hot gas or electric heat defrosting . . . it automatically controls fans, solenoid valves, compressor motors and other equipment. Install it, set it, then forget it.

Insist on famous Paragon top-quality construction necessary for heavy-duty service — vital to ending call-backs — a must for guaranteeing profits. Order from your Refrigeration Equipment Wholesaler or write Dept. 1687 for bulletin.

- ✓ PROVIDES DEFROST CYCLES from 15 to 120 minutes — 1 to 8 operations per day.
- ✓ LONGER SWITCH LIFE assured by heavy-duty, industrial type motor.
- ✓ SHOCK-PROOF TERMINAL BLOCK means faster, safer installation.
- ✓ AMPLE CAPACITY — 30 amps, 120/240 volts, single or double pole. Offers flexibility not found in any other control.

Also write for complete facts on these famous Paragon timers: Commercial Defroster, Dehumidifier Timer, 7-Day Calendar Dial Time Switch, Fan Timers

PARAGON ELECTRIC COMPANY
TWO RIVERS, WISCONSIN — WORLD'S FOREMOST MANUFACTURER OF TIME CONTROLS

SUPER-FLO FILTER-DRIER

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Check Super-Flo's amazing low price, for both original equipment and replacement, against ordinary driers which do not have Super-Flo molded drying elements, massive fiberglas depth filters and spun-end copper shells. Available to the trade through wholesalers everywhere.

REMCO INCORPORATED ZELIENOPLE, PA.

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BEST FOR SWEET WATER COOLING

Kelg Stevens Baking Co., Rockford, Ill. Home of Colonial Bread

For many types of product cooling such as milk and cream, air washers for hot bread and cake coolers, jacket water for dough mixers, jacketed holding tanks, and for various processes in candy making.

Compact and simple in operation. Easily installed. Maintenance cost at a minimum. No moving parts. No servicing necessary.

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The men who hold the key to this market are the commercial air conditioning contractor-dealers. (And they sell to the residential market, too!)

More commercial air conditioning contractors read AIR CONDITIONING & REFRIGERATION NEWS than any other publication in the field.

No doubt about it, the NEWS will carry your sales story to contractor-dealers who sell the bulk of the room air conditioners every year.

These are well established dealers who have sold and will continue to sell to the apartment houses, motels, hospitals . . . to the barber and beauty shops . . . to the doctors' and dentists' offices . . . and to the banks, stores, and office buildings in their many communities.

Any way you add it up, AIR CONDITIONING & REFRIGERATION NEWS is your key to ever-increasing room air conditioner sales in an ever-expanding market—and at a surprisingly low cost to you. For a solid sales foundation tomorrow, advertise now in the NEWS! Do the first job where the first job is being done!

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DETROIT, 450 West Fort St., WOodward 2-0924, J. B. Sullivan.

For more information about products advertised on this page use Information Center, page 26.

Detroit Heating, Cooling Contractors--

(Concluded from Page 1, Col. 2)

that he would have the proposed code changes drafted. He said the amendments should be ready in a couple of weeks and then circulated to all interested parties. A study committee meeting would then be called to hear objections, make changes, or get industry approval of the proposed amendments.

Meeting Called To Solve Problem

Drogosch said that he called this meeting to help solve a problem that has arisen in enforcing city safety regulations. He said that, under an agreement made in June, 1953, licensed gas and oil burner contractors not licensed as refrigeration contractors were permitted to install air conditioning systems in residences providing a licensed refrigeration contractor obtained the required installation permit, assumed responsibility for installation, and performed subsequent service.

He said that he felt that this agreement is now being abused in that some refrigeration contractors are getting installation permits without ever seeing the job for which they are technically responsible and some heating contractors are making installations without getting permits at all.

Representatives Asked To Consider Changes

To end this situation, which he did not consider to be good, he asked the industry representatives to consider license requirement changes that would permit heating men to handle complete refrigeration installations on packaged equipment where there was no breaking of refrigerant lines and for refrigeration men to handle packaged heating equipment.

After thrashing out the problem in a friendly fashion for more than an hour and a half, the two groups agreed on the following:

Groups Agreed On Several Points

A licensed oil and gas contractor would be permitted to take a Class B Refrigeration Contractors license examination without having the four years' experience required, if he was given a character clearance by the oil and gas contractors examining board.

If he did not feel qualified for a Class B license, which would permit him to install and service equipment up to 7½ hp., he could apply for a limited license which would permit him to install packaged sealed air conditioning units of up to 7½ hp. in residential, commercial, and industrial applications.

This would exclude any service work on these units other than starting them up and would exclude installation on units in institutions or public assembly areas. It would also exclude remote units where refrigerant lines must be connected.

On the other hand, a holder of a Class B or Class C refrigeration contractors license would be permitted to take an examination for a Class A oil and gas contractors license (up to 500,000 B.t.u.) without the required experience in the field if he received a character clearance from the refrigeration contractors examining board.

Or he could apply for a limited license to install design oil and gas equipment of up to 300,000 B.t.u. input on gas and 3 g.p.h. on oil.

In each case, the contractor would have to satisfactorily pass both the written and oral examinations before receiving his license.

Hotel To Get Conditioning

CHATTANOOGA, Tenn.—The new owners of the Park hotel here are planning a number of improvements, including air conditioning of most of the hostelry.

Deep South Supply To Handle Vornado Line

ATLANTA — Roscoe Walker has been named president of Deep South Supply Co., a newly-formed distributing company with main offices and warehouses here.

To accept the new position, Walker resigned as vice president of Thoben Elrod Co. where he was in charge of the Specialty Products Div.

Deep South Supply, according to Walker, will handle a diversified line of independent brand-name items.

The firm will supply independent dealers throughout the south with such products as Vornado air conditioners and fans, CBS Columbia television sets, Monarch washers, State water heaters, and others.

NCRSA Sales Gain-

(Concluded from Page 1, Col. 3)

ceivable rose 15.79% for the corresponding dates, it was reported.

A gain in total dollar sales since 1949 has also been noted by NCRSA officials. With 1949 sales rated as 100%, 1955 sales are given as 224% for NCRSA members.

For the same period, year-end inventory in 1955 was 220%, compared with 100% in 1949.

Accounts receivable 193% on Dec. 31, 1955, compared with 100% on the same date in 1949.

Dollar net profit before taxes for NCRSA members is compared between 1952 which was set at 100% and 1955 set at 184%.

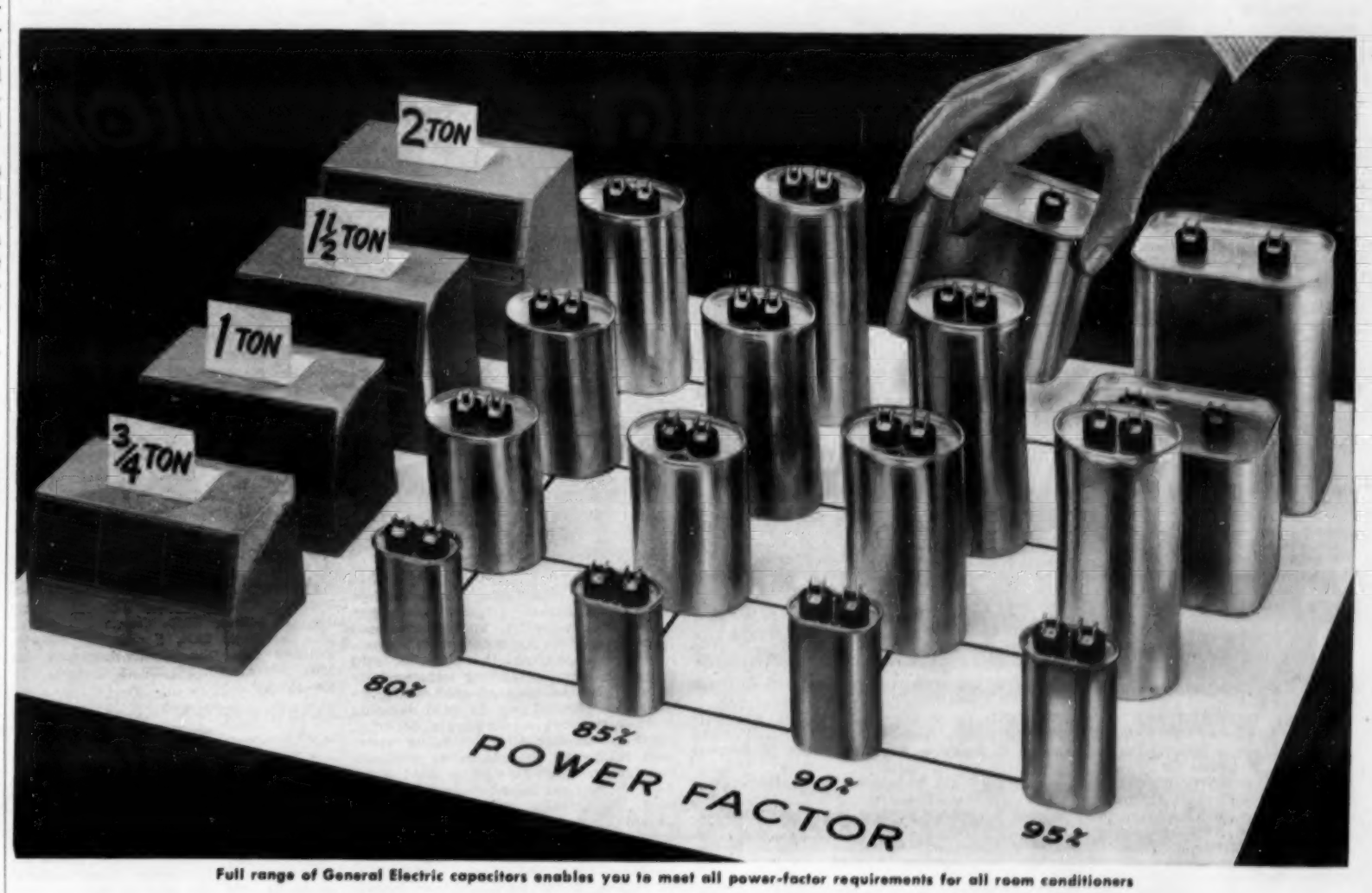
York Compressor--

(Concluded from Page 1, Col. 2)

bine drive in areas where natural gas is available as a fuel for powering air conditioning equipment, a spokesman said.

"In this type of application, gas piping is directly connected to the turbine drive, thereby eliminating any need for a boiler," it was stated. "Where natural gas rates are low, this type of power would be most economical."

York representatives said that the company's turbo water-cooling systems incorporating the new Turbomatic compressor are factory assembled and include prefabricated, interconnecting piping. To facilitate hauling, rigging, and erecting, however, systems are partially dismantled and skidded.



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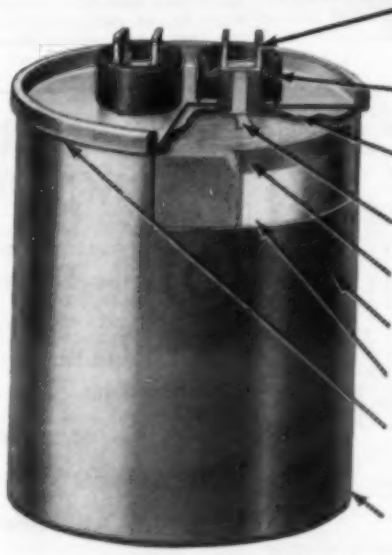

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10. **PYRANOL IMPREGNATION** makes possible minimum size, highest quality capacitor for a given rating.

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GENERAL ELECTRIC CAPACITORS can also help you meet the new Underwriters' Laboratory running current limitations, and utility power-factor requirements. Your G-E Sales Engineer has the training and experience to help you solve these special problems concerning power factor and optimum capacitor space utilization.

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SYNOPSIS OF PROPOSED PROCUREMENT

ARMY

Purchasing and Contracting Office, Fort Eustis, Va.

REPLACING HEATING SYSTEM BOILERS in Buildings 21, 31, 32, 33, 537, and 843, Fort Eustis—Job—IFB 44-019-56-121—Bid Opening 24 April 56.

Purchasing & Contracting Office, Fort Sam Houston, Texas.

REPLACE COOLING TOWERS Nrs 54 and 55, Bldg. 16—Job—IFB AIV-41-133-56-ENG-67 B—Bid Opening 19 April 56.

INSTALL EVAPORATIVE COOLERS Bldgs. 371, 2586, 2589, 2590—Job—IFB AIV-41-123-56-ENG-56 B—Bid Opening 20 April 56.

INSTALL EVAPORATIVE COOLERS Fourth Army Admin. spaces—Job—IFB AIV-41-133-56-ENG-89 B—Bid Opening 24 April 56.

Commanding Officer, Columbus General Depot, Columbus 15, Ohio. Attn.: Quartermaster Purchasing Agency.

PIPE, AIR CONDITIONING, HEATING, STOVE, TENT, misc., Mil. Spec. JAN-P-551—496724—IFB 56-261B—Bid Opening 25 April 56.

NAVY

District Public Works Office, Sixth Naval District, Naval Base, Charleston, S. C.

IMPROVEMENTS TO CENTRAL HEATING PLANT, BUILDING No. S-75, Naval Air Station, Memphis, Tenn. Fifteen dollars required for plans and Specs.—Job—IFB 830/56—Bid Opening 2 May 56.

District Public Works Office, Fourth Naval District, Second Floor, Naval Base, Philadelphia, Pa.

HEATING SYSTEM IMPROVEMENTS Bldg. No. 25 Naval Shipyard, Philadelphia, Pa. $10 deposit required for plans and specs.—Job—IFB 50987B—Bid Opening 24 April 56.

District Public Works Office, Fifth Naval District, U. S. Naval Base, Norfolk, Va.

MODERNIZATION OF COLD STORAGE BLDG. at Naval Supply Center, Norfolk, Va. Deposit of $25 required for plans and specs.—Job—IFB NOy 91294 Spec. 47380—Bid Opening 1 May 56.

Officer in Charge of Construction, Naval Air Advanced Training Command, Corpus Christi, Texas.

PROVIDING A 60 TON AIR CONDITIONING SYSTEM ductwork, water chilling compressor unit, electrical work, insulation, cooling tower, chilled water, air handling units, water softener units, concrete work, carpentry and painting—Job—IFB NOY 91223—Bid Opening not furnished.

AIR FORCE

Directorate of Procurement & Production, Gadsden Air Force Depot, Gadsden Air Force Station, Gadsden, Ala.

FURNISHING AND INSTALLING AIR CONDITIONING SYSTEMS at Gadsden Air Force Depot, Gadsden Air Force Station, Gadsden, Ala.—2 ea.—IFB 01-608-56-59B—Bid Opening 23 April 56.

Air Force Contracting Office, 3800th Air Borne Wing, Maxwell Air Force Base, Ala.

MODIFICATION OF AND AIR CONDITIONING SOUTH LEAN-TO of Bldg. 690, Maxwell Air Force Base, Ala.—Job—IFB 01-600-56-148B—Bid Opening 3 May 56.

Purchasing and Contracting Office, McClellan Air Force Base, McClellan, Calif.

SMA21-56-1 through 21-56-36 for NON-PERSONAL SERVICES TO INSTALL GOVERNMENT FURNISHED EVAPORATIVE AIR COOLERS in various Bldgs. at McClellan Air Force Base, McClellan, Calif.—Job—IFB 04-606-56-462—Bid Opening 23, April 56.

Base Procurement Office, Dover Air Force Base, Delaware.

INSTALLATION OF 20 TON AIR CONDITIONING UNIT in flight simulator building with cooling tower, plumbing, and associated ductwork—Job—IFB 07-603-56-174-B—Bid Opening 23 April 56.

Procurement Division, Holloman Air Force Base, N. Mex.

CONSTRUCTION OF A SHELTER FOR HIGH ALTITUDE TEST CHAMBER at Holloman Air Force Base, N. Mex., consisting of constructing a 44 ft. x 64 ft. masonry building complete with heating, plumbing, cooling, and electrical work. Work includes construction of a parking lot and an electrical substation.—Job—IFB 29-600-56-198 "B"—Bid Opening 26 April 56.

Purchasing and Contracting Office, 475th Fighter Group (Air Defense), Minneapolis, St. Paul International Airport, Minneapolis, Minn.

REPLACEMENT OF HEATING SYSTEM, including alterations to the building in Hangar P-1, Area "C" Minneapolis?St. Paul International Airport, Minneapolis, Minn.—Job—IFB 21-602-56-54B—Bid Opening 3 May 56.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 5, 575 U. S. Courthouse, 219 S. Clark St. Chicago, Ill.

PARTIAL INTERIM AIR CONDITIONING for Court for the U. S. Appellate Court, Chicago, Ill.—Job—IFB C&R 20—Bid Opening 4-17-'56.

General Services Administration, Region 4, Business Service Center, 50 Seventh St., N. E. Atlanta, Ga.

NEW AIR CONDITIONING, Savannah, Ga., 112 President St. Building—Job IFB CR4-1284—Bid Opening 5-1-'56.

General Services Administration, Region 7, Business Service Center, 114 Commerce, Dallas, Texas.

AIR CONDITIONING Judge Davidson-S Library, Post Office & Court House, Dallas, Texas—Job—OFB CR7563-329—Bid Opening 4-24-56.

REFRIGERATOR - FREEZER COMBINATIONS

MEET THE BIG DEMAND FOR A LOW COST

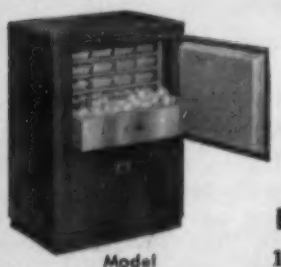
ICE CUBE MAKER

THAT FREEZES OVER

250

CUBES

EVERY FOUR HOURS



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DESIGNED, ENGINEERED AND MANUFACTURED BY

United REFRIGERATOR COMPANY

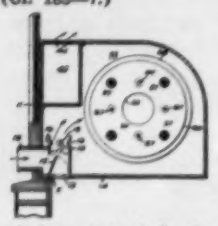
HUDSON, WISCONSIN

WRITE, WIRE OR PHONE TODAY

PATENTS

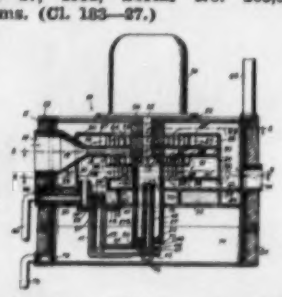
Week of Oct. 25(Cont.)

2,721,822. ELECTROSTATIC PRECIPITATOR. John L. Ditzler, Sharon, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application April 1, 1954, Serial No. 420,356. 4 Claims. (Cl. 183—7.)



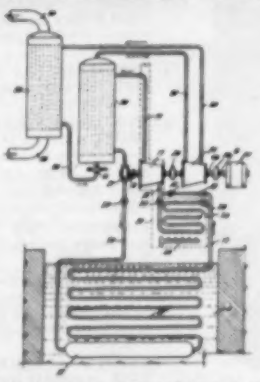
1. A window mounted electrostatic precipitator comprising a casing having an outdoor air duct extending outwardly from its outer side and adapted to be placed between a partially opened window and the sill of the window, means forming an ionizer passage within said casing adjacent the inner end of said duct, the lower side of said casing having a recirculated air inlet connecting with said ionizer passage, ionizer electrodes in said ionizer passage, a collector cell comprising spaced apart collector plates in said casing between said ionizer passage and the inner side of said casing, said casing having an inner wall adjacent one end of said cell, a centrifugal fan in said casing on the opposite side of said wall from said cell, said fan having an axial inlet opening, said plates and wall having openings aligned with said axial opening, means forming an air outlet in the upper side of said casing, and means connecting the outlet of said fan to said outlet.

2,721,823. AIR CONDITIONER. Frank H. Fletcher, Flushing, and Carl C. Haferkamp, Oswego, N. Y. Application Dec. 27, 1951, Serial No. 263,582. 9 Claims. (Cl. 183—27.)



1. An air conditioner comprising a housing, a motor, a shaft extending therefrom, a collar affixed to said shaft having an extended water chamber formed therein, the sides of said water chamber extending substantially parallel to the axis of said shaft, an air inlet passageway in said housing defined in part by inwardly tapering portions, horizontally extending members connected to said latter portions, central openings formed in said members, a vertical member forming with said horizontally extending members an intake chamber, an exhaust blower mounted on said collar having a bottom plate substantially closing the central opening of one of said horizontally extending members, an intake blower having an inlet in communication with said intake chamber, openings leading from said water chamber to the inlet side of said intake blower, a separator blower mounted on said collar, means forming a separator chamber in communication with said intake blower and said separator blower, means forming an outlet chamber in communication with the outlet side of said separator blower, means forming a housing chamber in communication with the inlet side of said exhaust blower, said outlet chamber and said housing chamber being in communication with one another, and means for introducing water into the said water chamber.

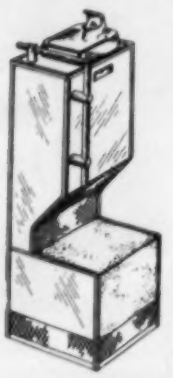
2,721,728. HEAT CONCENTRATOR. Henry B. Higgins, Florence Junction, Ariz. Application Oct. 12, 1951, Serial No. 251,116. 2 Claims. (Cl. 257—8.)



1. A heat pump comprising a refrigerant reservoir, an evaporating coil communicating at its one extremity with said reservoir, said reservoir and said evaporating coil being disposed at a source of natural heat, a vapor pressure motor having a drive shaft, a vapor conveying conduit having opposite ends thereof in communication with the other extremity of said coil and said motor, a heat exchanger, a conduit in communication with said motor and said heat exchanger for conveying exhaust vapors from said motor to said heat exchanger, a condensate pump operatively connected to said motor shaft, a condensed vapor conveying conduit in communication with said heat exchanger and said pump, a conduit in communication with said pump and said refrigerant reservoir for discharging condensate from said pump to said reservoir, a compressor operatively connected to said motor shaft, a second heat exchanger, a conduit between said first heat exchanger and said compressor for conveying refrigerant vapor from the former to the latter, a conduit between said second heat exchanger and said compressor for conveying compressed refrigerant from the latter to the former, a conduit in communication with said first heat exchanger and said second heat exchanger for conveying the compressed refrigerant from the latter to the former, and an expansion valve in said last conduit for expanding the compressed refrigerant into the first heat exchanger, and an electric motor having a driven shaft co-axial with said first shaft, an over-running clutch disposed between said first and second shafts for the purpose set forth, means for passing fluid through said second heat exchanger in heat exchanging relation therewith so as to increase the temperature of said fluid.

DESIGNS

175,918. DRINKING FOUNTAIN. Talman Horace Tanner, San Antonio, Tex. Application March 29, 1955, Serial No. 35,269. Term of patent 14 years. (Cl. D67—4.)

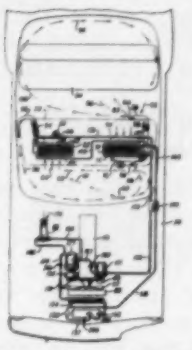


Week of November 1

2,722,048. METHOD OF MAKING HEAT EXCHANGERS. John R. Gier, Jr., Cleveland, Ohio. Original application April 8, 1950, Serial No. 158,043. Divided and this application Aug. 10, 1951, Serial No. 241,329. 3 Claims. (Cl. 29—157.3.)

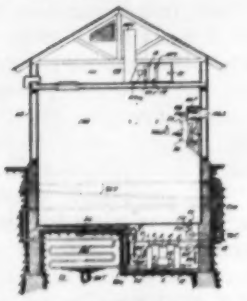
2. The method of making a structural element comprising cold punching each of a pair of pieces of thin sheet metal with a tool from one face of each at a plurality of spaced areas so as to partially eject slugs of the metal from the opposite face of each at said areas, respectively, and thereby form depressions in said one face of each at said areas, respectively, and then, with the pieces in unheated condition, and in the internally stressed condition resulting from said punching operation, and with unheated small diameter wire pins to be fastened to the pieces, each of which pins is substantially the same diameter as the punch at its ends, punching and completing ejecting the slugs from the pieces by opposite ends, respectively, of the pins, and thereby effecting resilient pressure engagement between the wall of each aperture formed by the pin punching operation and the engaged peripheral wall of its associated pin for holding its associated pin in place temporarily, arranging said pieces between, and with their said opposite faces in face to face relation with, a pair of metal wall members, respectively, and then concurrently brazing said pins to the pieces and said opposite faces of the pieces in face to face relation to their associated wall members.

2,722,106. REFRIGERATING APPARATUS FOR AN AUTOMOBILE. Charles F. Henney, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application May 4, 1950, Serial No. 159,978. 6 Claims. (Cl. 62—6.)



1. An air conditioning system for an automobile passenger car having a front seat for the driver and passengers and a rear seat in its passenger compartment, two cooling units located beneath the front seat, one of said cooling units having its air entrance nearest the front edge of the front seat for drawing in air from in front of the front seat and a duct means connecting to its air exit nearest to the rear edge of the front seat, the second of said cooling units having its air entrance nearest the rear edge of the front seat for drawing in air from behind the front seat and a second duct means connecting to its air exit nearest the front edge of the front seat, the duct means of said one cooling unit having an air discharge means directed forwardly at the extreme side of the passenger compartment, said second duct means having an air discharge means directed laterally upwardly adjacent the rear side of said front seat, and means for circulating air through said cooling units.

2,722,107. HOUSE COOLING SYSTEM. Fraser W. Gay, Metuchen, N. J. Application April 8, 1952, Serial No. 281,210. 6 Claims. (Cl. 62—6.)



1. In a house cooling system, a house space cooling device, a heat receptive earth storage area adjacent to the house including conduit means for conducting a heat transfer fluid therethrough, pump means operative to circulate said heat transfer fluid first through said house space cooling device to absorb heat from house air passed through said device and thence through the conduit means of the storage area, whereby the heat transfer fluid is warmed in the house space cooling device and then cooled by transfer of its carried heat to said storage area, and said conduit means of the storage area comprising a section located in a lower zone of the storage area adjacent to deep earth and a section located in an upper zone of said storage area, the connection of said conduit means with the house space cooling device being such that heat transfer fluid flows from the latter first through the lower zone section of said conduit means and thence through the section of said conduit located in

(Continued on next page)

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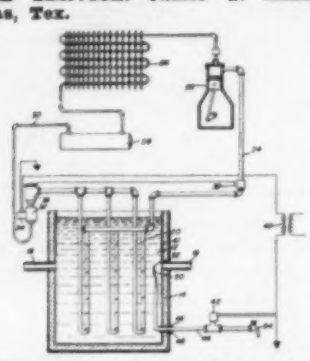
(Continued from preceding page)

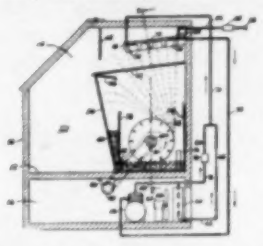
the relatively cool upper zone of the storage area, whereby a maximum amount of heat carried by the transfer fluid is transferred to said lower zone of the storage area subject to dissipation in cool deep earth.

2,722,108. REFRIGERATION CONTROL SERVICE. James G. Hailey, Dallas, Tex.



1. For use in a heat exchanger having a solenoid valve controlling the flow of refrigerant to a refrigerating element which stores energy by producing a coating of ice on the refrigerating element, a controller comprising a conduit provided with permanently operating positively acting pressure controlling and relieving means having an opening in proximity to the refrigerating element, said opening adapted to be closed by a predetermined thickness of ice on said element, a pressure switch responsive to the pressure in said conduit, a relief valve connected to said conduit, and circuit means including said pressure switch adapted to energize said solenoid valve, means for adjusting the position of said opening with respect to said refrigeranting element, and including means indicating the position of said opening.

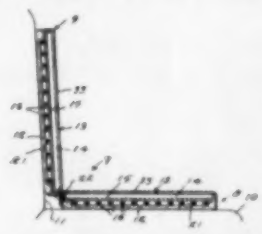
2,722,110. ICE CUBE MAKER. Romeo S. Denzer, La Crosse, Wis.



1. An ice cube maker comprising a plurality of inverted freezing cups, a main reservoir for liquid to be frozen, an auxiliary reservoir for said liquid, rotatably driven discs in said main reservoir and extending downwardly into the liquid in said main reservoir to spray said liquid into said freezing cups and into said auxiliary reservoir, and a metered orifice for conducting said liquid from said auxiliary reservoir to said main reservoir at a predetermined rate whereby the level of liquid in the main reservoir is maintained substantially constant.

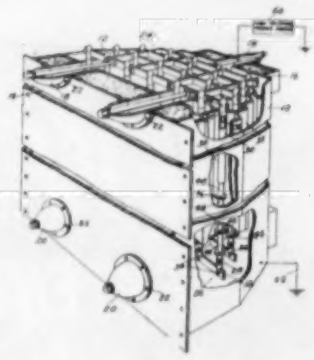
2,722,266. REFRIGERATED SEAT AND/OR BACK REST. Herbert H. Kersten, Fort Dodge, Iowa. Application April 3, 1953, Serial No. 346,696. 5 Claims. (Cl. 155—1.)

1. A seat or back rest comprising an inner section formed of a heat insulating material, an outer section comprising an inflated casing including an inner ply and an outer ply, said plies being normally held spaced from one another by compressed air within said



casing, a marginal portion of said inner ply being secured to a marginal portion of an inner side of said inner section, said inner side of said inner section having a recess surrounded by said marginal portion thereof, and a cooling coil disposed within said recess through which a refrigerating medium is circulated.

2,722,283. ELECTRONIC PRECIPITATOR. Hans Klemperer, Belmont, and Glenn E. Andrews, Lexington, Mass., assignors, by mesne assignments, to AFRA Precipitator Corp., New York, N. Y., a corporation of Delaware. Application March 30, 1951, Serial No. 218,450. 2 Claims. (Cl. 183—7.)



1. An electronic precipitator comprising an external tubular member of uniform polygonal cross section along its length; an internal elongated member inside one end of said external tubular member forming a collector electrode of uniform circular cross section along its length; an ionizing electrode in the other end of said member, said ionizing electrode comprising an elongated rigid member fixed at one end to one end of said collector electrode and having disks extending laterally from said rigid member, said collector electrode and said disks having substantially equal diameters in the region of connection of said ionizing electrode to said collector electrode, the ratio of the diameter of the elongated rigid member to the diameter of said disks in said region being less than .6 and being large enough to substantially prevent ionization at the surface of said rigid member; and means holding said electrodes in place comprising an extension of said collector electrode and an extension of said ionizing electrode beyond the respective ends of said tubular member, bus bars positioned beyond the ends of said tubular member, said extensions having slots therein engaging said bus bars, said extensions being insulatedly supported with respect to said tubular member whereby said collector electrode and said ionizing electrode are held along the axis of said tubular member.

2,722,284. ELECTRICAL PRECIPITATOR. Philip Cooperman, Union, N. J., assignor to Research Corp., New York, N. Y., a corporation of New York. Application Jan. 26, 1954, Serial No. 406,288. 8 Claims. (Cl. 183—7.)

6. In combination with an electrical precipitator having a gas-conducting duct, a plurality of parallel spaced collector electrodes of extended surface area in said duct, a plurality of discharge electrodes spaced from and intermediate said collector electrodes, means for applying a high electrical potential between said discharge and collector electrodes, and edge-effect re-

ducing means for said collector electrodes, said last means comprising a series of biased conductors respectively parallel to and spaced by a fixed distance from respective edges of said collector electrodes and at substantially the same distance from the discharge electrodes as the collector electrodes, and means for applying a biased potential to said biased conductors of a value intermediate the potential between said collector electrodes and said discharge electrodes.

(To Be Continued)

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EXCEPTIONAL OPPORTUNITY for top salesman presently employed by commercial refrigeration distributor to advance to factory level job with world's leading manufacturer. Must have outstanding sales record, free to travel, ability to work independently, supervise and build distributor organizations. Excellent salary plus bonus and travel expense. Send complete resume to Jack C. Pritchett, National Sales Manager, FRIEDRICH REFRIGERATORS INC., P.O. Box 1540, San Antonio, Texas.

OPPORTUNITY FOR manufacturers' representative: To increase your earnings, sell a full line of freezers, beverage coolers, display cases, dual temperature reachins and walkins. We manufacture a quality line to meet competition. Territories now available, write HOWARD REFRIGERATOR CO., INC., 4745 Worth Street, Philadelphia 24, Pa.

MANUFACTURERS' REPRESENTATIVE with commercial refrigeration experience, now covering Michigan, Indiana, Midwestern or Southwestern states, to sell fast-growing line of commercial equipment. Write PAUL R. STEWART, 1712 John Street, Cincinnati 14, Ohio.

SALES SUPERVISOR for Western Michigan distributor of leading and nationally advertised manufacturer of commercial and residential air conditioning equipment to appoint dealers and work with their sales organizations. Experience in this business preferred but consideration will be given to others with proven sales record. Age 28 to 35 years. Salary and commission commensurate with ability. Group insurance and other social benefits. Must live at Grand Rapids. Our organization knows of this advertisement. Write full details of your experience to BOX A5510, Air Conditioning & Refrigeration News.

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SERVICEMEN'S THERMOMETERS: Mercury filled with pocket cases, range -60° to plus 160° F, Mfg. by Taylor and G. M. Price $10.80 per dozen postpaid. H. L. BOGGESS & SONS, Liberty, Missouri, P.O. Box 137.

AUTOMATIC CONDENSATE pumps $29.95 up at your local wholesaler. Available in 110 or 220 volts 10 or 20 foot heads. Totally enclosed or hot dipped galvanized tanks with 2 gallon reservoir.

NEW YORK, Abco Refrigeration, 1615 Second Ave.
BRONX, Garson Plumbing, 2987 Webster Ave.
MT. VERNON, Eastern Supply, 521 East Third Street.
WHITE PLAINS, County Seat, 111 Central Ave.
NEWARK, N. J., Tesco Distributors, 78 Boston Street.
DAYTON, OHIO, W. H. Kiefaber Co., Refrigeration Dept.
SACRAMENTO, CALIF., Associated Refrigeration, 1717 Eye Street.
Distributors write to KESCO PRODUCTS CORP., Springfield Gardens 13, N. Y. for sample pump and literature.

NATIONALLY-FAMOUS HERMETIC units at fabulous discounts! ⅛ h.p. to ⅓ h.p. domes from $29.50. Hermetic units with air-cooled finned condenser attached, ⅛ and ⅙ h.p., from $34.50. Complete unit assembly with fan-cooled condenser (less dome) for use with ⅛, ⅙ or ¼ h.p. dome, only $9.00. ⅛ h.p. static condensers—95¢ each. Many other parts at equal savings. All equipment brand new, ready for immediate shipment. Write or phone for descriptive literature. MANN REFRIGERATION SUPPLY CO., 440 Lafayette St., New York, N. Y.

AIR CONDITIONING value: 2 h.p. hermetic compressor F-12 230V. 1/phase HD200. 2 h.p. air cond. evaporator 23½" L x 16" H x 3½" W. 2 h.p. air cond. condenser 24" L x 24" H x 4½" W. Also included 2 ton F-12 T. X. Valve & dual pressure safety cutout switch. Complete matched component kit as described $179.50. Freight prepaid anywhere in the continental U. S. A. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

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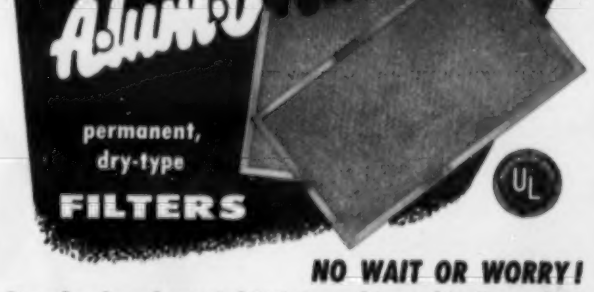

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Frigidaire Trade-'N-Post--

(Concluded from Page 1, Col. 3)

dealerships in the Frigidaire Detroit district attended the meeting.

The dealers saw a fast-moving presentation covering Frigidaire's 1956 line of air conditioning and commercial refrigeration products, market opportunities, and merchandising programs.

Regarding the Trade-'N-Post plan, dealers were told that families who have a room conditioner are the best immediate prospects for full-home conditioning "because they have had a taste of air conditioning in their own home and know how wonderful it is."

However, the plan is not limited to owners of room conditioners. It is also designed to stimulate consumers' interest in home conditioning even though they do not own a room unit.

The Trade-'N-Post campaign will be promoted in a big advertising campaign in Sunday newspaper supplements and in magazines. The newspaper ads will feature dealer tie-ins. Ads start May 20.

Kit Prepared

Frigidaire has prepared a Trade-'N-Post kit containing a variety of dealer selling aids. One item is a selling plan book explaining the complete selling program from lining up prospects for full-home conditioning to selling the room conditioners accepted as trade-ins.

The kit also contains newspaper ads to help the dealers resell the trade-in room units, a setup for handbills, radio and TV scripts, and a materials order form.

The form is for use in ordering such additional materials as window and showroom banners, full-home conditioning selector, proposal and estimating form, pricing guide, room conditioner appraisal guide, handout booklet, envelope stuffer, and new selling literature and product specification sheets.

Free Filter Replacement

Another selling aid is Frigidaire's free filter replacement plan, described as "an ideal medium to get in to see everyone of your room conditioner users and to show them how they can exchange 'One-Room' comfort for 'Full-Home' comfort." Also to be available is a barometer for use as a user gift for names of prospects who eventually buy.

Frigidaire also advises dealers to call on every room conditioner user regardless of the brand owned, and to use their servicemen to develop prospects.

In addition to the Trade-'N-Post campaign, Frigidaire's merchandising program on residential conditioning include a promotion scheduled for July on both cooling and heating, and a September promotion with full emphasis on heating equipment.

It was also announced that Frigidaire will make available a "Sales Maker" training school on all residential and commercial air conditioning equipment.

Promotional aids on room air conditioners include dealer cooperative advertising, literature for handout and direct mail, a full-line folder, "spec" sheets, and a room unit selector which enables the salesman to quickly select the right size unit on the job.

Another room conditioner selling tool is a Frigidaire unit front panel with carrying case for making demonstrations in the home. A card in the case lists the main points to make in the initial presentation.

Other Aids

Other aids are a three-tiered air conditioner display stand, a plastic "tent" in which an operating unit is put for dramatic demonstration at the store, free filter replacement plan, barometer gift for referrals, and a custom color kit of panels, in a choice of six colors, which can be easily attached to the front of an air conditioner.

Firestone Stores Will Sell Philco Lines Next Year

PHILADELPHIA — Philco Corp. will merchandise its complete line of home appliances nationally through Firestone Tire & Rubber Co. dealers beginning next January, both companies announced recently.

Although details of the arrangement have not be revealed, it is reported that Firestone will buy directly from Philco and distribute the appliances to its dealers.

Firestone owns and operates 725 stores from coast to coast. It also franchises several thousand dealers to handle the Firestone lines.

Franchised dealers will have the option of handling the Philco lines in addition to Firestone equipment.

Westinghouse Push on Products--

(Concluded from Page 1, Col. 2)

producing appliances long before the strike ended.

2. A new 9.2-cu. ft. refrigerator "special" to retail at $199.95, and a new matching washer and dryer combination, to sell at special prices, are now being shown at dealer meetings.

3. A complete line of room air conditioners, including a 7½-amp. ¾-hp. model, is now being merchandised by the Refrigeration Specialties Dept., which is making plans to produce all of the 1957 models at its Springfield, Mass. plant. It is reported to be preparing to equip these units with a light-weight, high-speed refrigeration compressor.

4. In July and early August, says Craig, Westinghouse will have in distribution throughout the country a complete new line of built-in appliances. Included in the line will be the new two-door refrigerator-freezer that can be built in either horizontally or vertically. This line will also include new built-in laundry equipment, that can also be stacked vertically if so desired.

5. The greatest advertising and promotion campaign in the 70-year history of the Westinghouse Electric Corp. will be launched April 16. As outlined by Chris J. Witting, vice president and general manager of the Westinghouse consumer products divisions, this will include:

A "product pre-sell campaign" in newspapers in all the nation's market areas beginning April 16, and on radio in the same areas beginning in May; an "image building" campaign in major magazines beginning in late June and continuing into next year.

NEW Bush 'BC' Blower Condensers permit air conditioning and refrigeration systems to operate *without water* . . . provide the answer to excessive water costs, limited supply, excessive impurities or disposal problems.

Available in capacities up to the 20 Tons, new Bush 'BC' Blower Condensers feature *low noise level . . . quiet operation.*

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'CDT' COPPER DECK COOLING TOWERS with all copper decking. **'IEC' INNER-FIN EVAPORATIVE CONDENSERS** featuring patented inner-fin coils. Both units available with blower or propeller fan. Capacities from 3 to 90 Tons.

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